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AN ANALYSIS AND EVALUATION OF LAND USE IN THE SPECIAL AREAS OF ALBERTA

A Dissertation
Presented to
the School of Graduate Studies
University of Alberta

In Partial Fulfilment
of the Requirements for the Degree
Master of Arts

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by

Ronald Stuart Rust

September 1956

UNIVERSITY OF ALBERTA

The undersigned hereby certify that they have read and do recommend to the School of Graduate Studies for acceptance, a thesis entitled "An Analysis and Evaluation of Land Use in the Special Areas of Alberta", submitted by Ronald Stuart Rust, B.S.A.(Manitoba), B.Ed.(Alberta), in partial fulfilment of the requirements for the degree of Master of Arts.

Professor.

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An Abstract of a Thesis Entitled

AN ANALYSIS AND EVALUATION OF LAND USE IN THE SPECIAL AREAS OF ALBERTA

The reason for the formation of the Special Areas was the persistent recurrence of severe drouth conditions. The drouth conditions were such that farmers could not maintain a decent standard of living, pay the necessary taxes for the support of local government and social services, nor carry out the necessary cultural practices to prevent soil erosion. The purpose of the Special Areas Act was to provide temporary measures which would relieve the suffering and hardship of people living in the region and at the same time prevent further destruction of valuable grazing land. Gradually over the intervening years since the original legislation was passed, new acts and regulations have been passed, and in many cases later changed. The result of the Special Areas Act has been to set aside a part of the drouth area of the province as The Special Areas. The aim of the government legislation has been to bring about readjustments which would make it possible for farm units in this region to be economically profitable. The purpose of this study has been to review the government legislation; determine the effect the legislation has had on land use in the Special Areas; present a descriptive review of the present use of land; make comparisons with previous studies of land use; suggest ways and means by which land use could be further improved; and provide as complete a reference to Special Areas agricultural problems as possible.

In making the study a thorough review of the conditions leading

up to the passing of the Special Areas Acts was made. The numerous commission reports that have been made concerning the region were carefully scrutinized to determine the extent and persistence of agricultural problems in the area. A tour was made through a considerable portion of the Special Areas to observe existing conditions, to interview farmers and government officials and also to compare present conditions with those that existed in the 1930's and 1940's. Many interviews were held with officials of various Provincial and Dominion Government Departments.

Census data were found to provide more material on land use in the Special Areas than any other sources. Though census material was used as the core of the study, this was augmented by a careful analysis of a land classification study made of the region in 1936 and of an appraisal study of dryland farming in the area in 1951. The results of studies carried out in similar regions in Saskatchewan were also reviewed. Many particulars regarding various incidental aspects concerning the region were obtained through correspondence with various government officials, companies and other individuals.

The principal conclusion of this study is that agricultural problems have not been given their due consideration under the present system of Special Areas management. The management has endeavoured to foster an increase in the number of livestock kept on farms and at the same time a decrease in the amount of marginal and submarginal land under cultivation. The reasoning behind such a program is that a livestock and grain producing farm provides a better income than one devoted entirely to grain production. Through the granting of grazing

and cultivation leases on public land the government has made it possible for many farmers to increase the size of their farms sufficiently to maintain and even to increase their income. There still are, however, some farmers who have been unable to increase the size of their holdings sufficiently to withstand adverse agricultural conditions and at the same time maintain a desirable standard of living. To a certain extent this condition has not been too evident in recent years owing to higher than average yields and prices for farm produce. Under more normal conditions, however, these small farms are unlikely to be profitable. Moreover the possibility of increasing the size of these farms is not great since the large areas of public land are already under lease agreements and there is only a small amount of privately owned land available for purchase from other farmers.

The reason for the existence of the Special Areas is improper agricultural adjustment. In spite of this the Special Areas Board gives most of its consideration and money towards the building of roads and the provision of social services. Investigations made in this study indicate that there are numerous ways in which the productivity of the land could be more fully realized if greater assistance and direction were given by the Special Areas management.

Acknowledgements

The author wishes to express his appreciation of the assistance given by all those people who helped in the preparation of this thesis by providing material and information. I especially express my thanks to Mr. S. Cherkas, Supervisor of the Special Areas, Mr. C. G. Macgregor, Accountant of the Provincial Department of Municipal Affairs, Dr. O. S. Longman, former Deputy Minister of Agriculture, and to the members of the Special Areas Board. I also wish to thank Mr. A. H. Laycock, Dr. C. F. Bentley and Mr. M. J. Boote for their helpful advice and pertinent observations on the development of the thesis.

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PART A - SETTING

In part A the Special Areas are defined and described. Here are outlined those physical factors which give the general geographical setting and which have been largely responsible for the agricultural situation which led to government assistance and finally to special legislation to alleviate the problems involved.

PART A - SETTING

CHAPTER I

GEOGRAPHICAL SETTING - PHYSICAL

1. Location of the Special Areas

The Special Areas are located in the so-called short grass plain region of east central Alberta.[1] The area is irregular in shape. It is contained within an area extending 105 miles from north to south on the Alberta-Saskatchewan border and 108 miles west from this border at its widest point. For the most part its northern boundary is the dividing line between township 37 and township 38 and extending west to the western boundary of range 10. From here the boundary extends south and west in a series of steps until the Red Deer river is reached in township 27, range 18. The boundary line then follows this river until a point in township 21 between ranges 10 and 11 is reached; it then goes south to a point mid-way in township 20, from whence it goes east as far as the west boundary of range 2 and then goes south to the South Saskatchewan river, from which point it follows the river to the Saskatchewan boundary.[2]

2. Topography

The topography of the area is considered a glacial drift

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[1] For general location see Appendix A, Figure 1, page 154.

[2] For more exact boundaries and areas within the above description, not included in the Special Areas see Land Classification Map, Appendix C, Figure 5, inside back pocket.

plain. The surface is in greater part undulating or gently rolling. There are however areas of rolling and even hilly land. From the western boundary of the Special Areas the land slopes generally eastward to the Saskatchewan boundary.

Some idea of differences in elevations may be gained by considering the elevations of various towns within the area. Hanna near the western boundary has an elevation of 2,677 feet; Youngstown and Chinook, near the center, have elevations of 2,534 feet and 2,539 feet respectively; and Sibbald near the eastern boundary has an elevation of 2,357 feet. There is therefore an eastward drop in elevation of 320 feet. Similarly going from west to east in the southern part of the area one finds elevations varying from 2,579 feet at Iddesleigh, 2,332 feet at Buffalo and 2,047 feet at Sharrow, giving an eastward drop of 532 feet. The predominant level of the whole area is approximately 2,500 feet.[3]

There are several ranges of hills. The Neutral hills in the northern part of the area contain elevations up to 3,000 feet. This range continues easterly over a large part of the area but gets gradually lower.[4] The Hand hills, south west of Hanna, have an elevation up to 3,550 feet.[5] In the most southerly part of the area the Rainy hills, south of Iddesleigh, have a maximum elevation of 2,600, while just south of Majestic there is another group of hills which

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[3] Department of Mines and Resources, Air Navigation Edition of Hanna-Kindersley Map. Sheet 72 N.W. (Ottawa, 1940). Scale: 8 miles to 1 inch.

[4] F. A. Wyatt, J. D. Newton, W. E. Bowser and W. Odynsky, Soil Survey of Sullivan Lake Sheet, University of Alberta, Bulletin No.31, (Edmonton, 1938), 8.

[5] F. A. Wyatt and J. D. Newton, Soil Survey of Sounding Creek Sheet, University of Alberta, Bulletin 16, (Edmonton, 1927), 2.

reach a maximum height of 2,675 feet.

The Red Deer river extends with a meandering course along a large part of the west side of the area and then turns east through the southern part of the Special Areas. The level of the river varies from one hundred feet to three hundred and fifty feet below the general plain level. In most places the valley is over a mile wide, though just before it turns east it is between three and four miles in width.[6] A large part of the land drains into the Red Deer river. The northern part, however, drains into the North Saskatchewan river by way of the Battle river.[7] In normal years much of this area has only interior drainage. The South Saskatchewan river borders the Special Areas for a few miles in their extreme south eastern portion.

Various creeks flow through the area. Many of them are seasonal in flow and others contain water only during wet years. Ribstone creek in the most northerly part of the area is a seasonal stream in dry years. Sounding creek originates in the draws and meadows south of Coronation. This creek, which tends to be seasonal in nature, provides interior drainage for a large portion of the northern area. In very wet years it tends to form a part of a northeasterly flowing drainage system. In such years it flows south

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[6] F. A. Wyatt, J. D. Newton, W. E. Bowser and W. Odynsky, Soil Survey of Rainy Hills Sheet, University of Alberta, Bulletin 47-48, (Edmonton, 1937), 2.

[7] F. A. Wyatt, J. D. Newton, W. E. Bowser and W. Odynsky, Soil Survey of Sullivan Lake Sheet, University of Alberta, Bulletin 31, (Edmonton, 1938), 8.

from the Coronation area for about forty-five miles, makes a loop to the east and again flows north. After joining with Grassy Island lake it flows north to be joined at Pemukan by Monitor creek and from thence it continues north into Sounding lake, which is drained across the Saskatchewan border by Eyehill creek.[8] The central portion of the Special Areas is drained by a number of creeks and coulees which originate in the area and flow into the Red Deer river. The most important of these are Bullpound, Berry, Blood Indian and Alkali creeks. These creeks are for the most part seasonal in nature,[9] though there appears to have been some increase in flow during the last fifteen years. In the spring these creeks frequently carry a large volume of water.

Some of the land of the area is unfit for cultivation because of roughness, but such can usually be utilized for grazing purposes. Land having such a topography is frequently regarded as advantageous to extensive livestock production since the roughness usually provides more stock watering places and at the same time provides some protection to cattle and horses during the fall and winter months.

There are several lakes in the area. Most of these are in the northern part. Many of them contain water only in the wetter years. Some of them have no outlet and thus tend to contain alkali salts.

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[8] F. A. Wyatt, J. D. Newton, W. E. Bowser, W. Odynsky, Soil Survey of Sullivan Lake Sheet, University of Alberta, Bulletin 31, (Edmonton, 1938), 8.

[9] F. A. Wyatt and J. D. Newton, Soil Survey of Sounding Creek Sheet, Bulletin No.16, (Edmonton, 1927), 2.

The largest is Sullivan lake which in wet years has covered nearly one and one-half townships. Sounding lake at times covers over nine square miles. In 1937 both of these were dry. Gooseberry lake just north of Consort is about two miles long. It is a local pleasure resort.

Kirkpatrick lake, Hamilton lake and Grassy Island lake are marshy in character and frequently contain very little water.[10] Little Fish, Dowling, and Hand Hills lakes are located near the western boundary of the area. Although there is a considerable amount of drainage into Dowling lake from the surrounding area, there is no natural outlet. Few natural lakes of any size occur in the southern part of the Special Areas. Many of the sloughs and smaller lakes dry up during the summer months of the drier years but contain water at all seasons during the years of heavier rainfall.

3. Climate

The Special Areas region is one of the driest of the plains region of western Canada. The summer months are characterized by long, bright, moderately warm days. The winter months are dry, sunny and cold.

The southern part of the area is in the path of the Chinooks or warm, dry, southwest winds. These winds blow off the Pacific ocean but lose their moisture when ascending the western slopes of the Rocky Mountains. These winds do bring occasional fast thaws during the winter period. Though the prevailing wind is north to northwest, the strongest

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[10] F. A. Wyatt, J. D. Newton, W. E. Bowser and W. Odynsky, Soil Survey of Sullivan Lake Sheet, University of Alberta, Bulletin No.31, (Edmonton, 1938), 8-9.

winds are predominantly from the southwest.[11] In the northern portion of the Special Areas the winds are usually from the northwest or from the south, with about the same frequency.[12]

The climate is characterized by a high yearly amount of sunshine. No long term records are available for the area, however, the average amount of sunshine is very similar to that of Medicine Hat. The 14 year average sunshine at Medicine Hat is 2,354 hours per year.[12] The abundant sunshine and frequent, strong, dry winds during the growing season quickly use up soil moisture and increase the rate of transpiration of growing crops. The yearly precipitation rarely exceeds 13 inches. During the growing season 7 to 9 inches of rainfall usually occur. The rate of potential evapo-transpiration greatly exceeds this amount. The finer textured soils usually have some carry-over of moisture from the previous fall and spring and this is made available to crops during the growing period. A large part of the moisture which falls on coarser soil is not retained within the root zone. The amount of annual streamflow or runoff with such a small quantity of precipitation is not large but does tend to further reduce the amount of soil moisture that is available to plants.

Potential evapo-transpiration greatly exceeds precipitation and this is accordingly a drouth area. To overcome this difficulty, summerfallowing helps to conserve a small amount of extra moisture for a crop in the following year. The value of such summerfallowing increases in the fine soil areas because these soils have a greater capacity for moisture storage. Although the amount of streamflow is not

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[11] F. A. Wyatt and J. D. Newton, Soil Survey of Sounding Creek Sheet, Bulletin 16, University of Alberta, (Edmonton, 1927), 3.

[12] F. A. Wyatt, J. D. Newton, W. E. Bowser and W. Odynsky, Soil Survey of Sullivan Lake Sheet, Bulletin 31, University of Alberta, (Edmonton, 1938), 11.

great and although it reduces the amount of water available for plants, it does provide a major part of the water necessary for livestock production and for small tracts of irrigated land.

The seasonal pattern of precipitation for the principal weather stations in the area indicates that there is rarely more than three-quarters of an inch of precipitation in January or February. Although an increase in usually experienced in March such an increase still leaves the monthly total well below one inch. For the month of April a few weather stations in the area frequently report very close to an inch of rain. During May and until the latter part of June a steady increase in the amount of precipitation usually occurs, after which time there is slightly less precipitation and this decreases steadily during July and from then to the end of the year. The total monthly precipitation in May is rarely above 1½ inches, while in June and July it tends to vary from this figure to slightly under 2½ inches.

The temperature pattern tends to be quite similar to the moisture pattern. Although July is the hottest month, having a monthly temperature ranging from 64 degrees to 70 degrees, the monthly temperature for both June and August is usually over 60 degrees. Prior to these three months of high temperatures and immediately following them lower temperatures prevail.

The increase in precipitation during the growing season is accompanied by a significant rise in temperature. The highest temperatures tend to occur during the latter part of July. This increase in temperature usually occurs at a time when the monthly precipitation may be expected to decrease. This results in a greater amount of

evaporation of soil moisture and plant transpiration than is replaced by precipitation. As a result both cultivated and most of the native grasses tend to dry up during the latter part of July. It is at this critical time that the effects of an extra reserve of moisture due to summerfallowing the previous year becomes most apparent.

Meteorological data for the three towns of Hanna, Jenner and Alsask give a fairly good picture of temperature and precipitation of the Special Areas. Alsask, Saskatchewan, is located on the east central boundary of the Special Areas. Jenner, located in the southern part of the area, has recorded highest annual averages of extreme highest temperatures over a 21 year period.[13] The longest record of temperature and precipitation for any station within the area is 28 years. Because of this the long term records of Medicine Hat which is about 50 miles south of the area help to complete the picture.

The average temperatures for the above stations have been recorded for various periods between the years 1921 and 1950. Hanna recorded an average temperature of 37.3° over a 28 year period; Jenner, an average temperature of 38.3° over a period of 29 years; Alsask, an average temperature of 36.6° over a period of 13 years; and Medicine Hat, an average temperature of 42.2° over a period of 30 years. The average yearly precipitation for Hanna over a 28 year period was 12.5 inches, for Jenner over 27 years was 12.3 inches, for Alsask over 19 years was 13.0 inches and for Medicine Hat over 30 years was 13.6 inches. If the climatic conditions for these four points are considered typical of those

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[13] Meteorological Division, Department of Transport, Canada, Climatic Summaries for Selected Meteorological Stations in the Dominion of Canada, 1947, 34.

usually prevailing in the Special Areas, the average temperature would be approximately 38.6° and the average annual precipitation approximately 12.8 inches. This low precipitation does not present so much of a major agricultural problem as does the variability of the precipitation from year to year. Though the average annual precipitation is usually between 12 and 13 inches for most points in the Special Areas, extremely high and low yearly amounts of precipitation have been experienced. The greatest range between maximum and minimum yearly records of precipitation for any major station in Alberta is shown by those of Medicine Hat. In 1907 the total precipitation was only 6.9 inches, while in 1927 it was 25.3 inches. Since the precipitation of Medicine Hat resembles that of the Special Areas it is quite likely that similar conditions prevailed in the Special Areas in those years.[14]

In a report on precipitation in the prairie provinces Currie estimated that a farmer in the Special Areas region could expect between six and ten years of serious drouth in 40 years of farming. The south eastern side of the Special Areas was entirely within the 10 years out of 40 expectancy range.[15] Such drouth conditions refer to those years in which the amount of moisture available to crops during the growing season is not sufficient to sustain the plants' growth to maturity without damage caused by a moisture shortage.

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[14] For further details regarding temperature and precipitation see Appendix A, Table I, page 155, and Table II, page 156.

[15] B. W. Currie, Prairie Provinces and Northwest Territories, Precipitation, University of Saskatchewan, (Saskatoon, 1953), Appendix, Figure 16.

The annual precipitation in the Special Areas has frequently been so small that it has been impossible to raise a worthwhile crop of grain. In this respect, however, the moisture supply carry over from the previous year and the precipitation for the growing season determine whether a crop can be successfully grown. The meteorological data available for the Special Areas indicate a generally low annual precipitation as well as inadequate precipitation during the growing season.

The average length of the frost free period for Hanna, Jenner and Alsask for the years in which records are available are 103,104 and 96 days respectively. The shortest frost free period recorded was 39 days at Wastina, and the longest, 113 days at Empress.[16] The frost free period is usually shorter than the growing season. The late spring frosts and earliest fall frosts seldom damage wheat crops seriously. For the most part, therefore, frost damage is not of major significance in the Special Areas.

4. Soils

The parent material of the soils in the Special Areas is composed of unconsolidated rock of glacial origin. It varies in depth from several inches to several hundred feet, and is for the most part made up of glacial material that has been deposited or derived from underlying rock formations.

The underlying rock in much of the area belongs to the Belly River formation. This formation tends to be a mixture of clayey sandstone,

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[16] For further information re frost data see Appendix A, Table III, page 157.

sandy shales and soft clay belonging to the upper Cretacious period. The sandstone is cemented together with small particles of soft clay and consequently such rocks are very easily eroded when exposed to the elements. The effects of such erosion are noticeable in the sand dunes around Antelope lake, which are mostly derived from the sandstone in the Edmonton and Belly River formation. Smaller areas of the same formation occur in the sandy loam soils northwest of Hemaruka, west of Naco, in the region east of Esther and again southwest of Alsask.

The Bear Paw formation overlies the Belly River formation. This Bear Paw layer consists of dark clay shales with occasional beds of sandy shale. It is high in sodium, magnesium and aluminium sulphates. A large part of the west and southwest portions of the area is underlain by Bear Paw shale and sandy shales of the lower Edmonton formation.[17] The Bear Paw formation contains little lime except where it has been washed in from glacial till.[18] There is, however, a considerable amount of lime in most of the underlying formation.

The proportion of materials derived from these three formations affects the fertility of the soil and consequently the suitability for agricultural purposes. Soils which have been developed from the Belly River formation are considered superior agricultural soils. The soils which have been derived from the Bear Paw formation tend to contain a high degree of solonetz soils and are, therefore, not so desirable for agricultural use. In regions where there is only a thin covering of the Belly River formation, the other two formations are frequently interspersed

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[17] Committee Report to the Alberta Government, A Report on the Rehabilitation of the Dry Areas of Alberta and Crop Insurance, (Edmonton, 1935-36), 17-18.

[18] F. A. Wyatt, J. D. Newton (with Appendix II by J. A. Allan), Soil Survey of Sounding Creek Sheet, University of Alberta, Bulletin No. 16, (Edmonton, 1927), Appendix II, 54.

and as a result much of the top soil varies in value as far as farming is concerned. Soils which have developed from the Edmonton formation contain only a small amount of the solonetz type of soil and are recognized as good soils for agricultural production.

The soils of the Special Areas were analyzed and classified by the Soils Department of the University of Alberta in cooperation with the Dominion Department of Agriculture over a period of years extending from 1924 to 1940. The land in the Special Areas comprises parts of several individual soil survey studies. Only one of these soil surveys covered an area entirely within the present boundaries of the Special Areas. This, together with the fact that some changes in the technique of classification were made in the various surveys, makes it difficult to classify the Special Areas soils as a complete unit.[19]

The Special Areas lie mainly within the brown soil zone. In the western and northern sections, however, much of the land is dark brown in color. Possibly 12 per cent of the total area can be classed as containing brown soils. There is such a gradual transition from the brown soils to the dark brown soils that no definite boundaries can be drawn. The dark brown soils have developed under conditions of low rainfall and high evaporation and transpiration. Such soils have developed under somewhat more humid conditions than occur in the brown soil zone.[20] The dark brown soils have a higher organic content than the brown soils. In the areas where such occur a slightly higher annual

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[19] See Appendix A, Figure 3, Soils Map, in back pocket.

[20] A. Stewart and W. D. Porter, Land Use Classification in the Special Areas of Alberta, (Edmonton, 1942), 40.

precipitation has usually occurred during the time in which records have been kept.[21]

The majority of the soils in the Special Areas are classed as loam. There is, however, a great variation found in the soil textures in the area. Areas containing sandy loam, fine sandy loam, heavy loam, occasionally clay loam and even clay, may be found a few miles from each other. The poorest soils are composed largely of sands, solonized loams, and sandy loams, while the better farming soils consist largely of heavy loams and clays. Clay soils occur only in small scattered regions throughout the area.

The finer textured loams and clays have greater moisture retention capacities than coarser textured soils. The small heterogeneous openings between the soil particles tend to prevent a rapid downward movement of water by gravity, and at the same time prevent a rapid rate of evaporation from the surface of the soil. The ability of such soils to retain more soil moisture makes more water available to growing plants. Such land when summerfallowed also tends to retain a much larger proportion of soil moisture for the following year. Because of these features and because of the generally higher proportion of necessary plant nutrients that are found in such soils, they are the most suitable for crop production. The importance of the water holding capacity of the heavier loams and clays is particularly great in the Special Areas because of the frequently marginal amount of precipitation that is received.

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[21] Fragmentary data from Dominion Meteorological Reports, 1900 to 1955.

The boundaries between the differently colored soils and their subdivided classes were originally made from inspection of the land from road allowances. This method though not giving complete accuracy does give a good indication of the basic soil classes. As mentioned earlier some changes in classification have been made since the first survey was carried out. A regrouping of soil classes was later carried out for the whole area.[22]

From the soils map it becomes quite evident that loam soils predominate throughout the whole area. There are, however, quite a few other types scattered among such soils. Eroded soils occur along all the major streams and creeks as well as along the Red Deer river. A large portion of the southern and western sections of the Special Areas contains what is termed 'blow-outs' on the soils map. Such soils are defined

> to include those soils having a hard B solonetz like horizon developed within approximately one foot of the surface and a broken surface topography due to the patchy removal of varying percentages of the A horizon. In the brown soil zone these blow-out depressions average about ten feet in diameter and vary in depth from about three to eighteen inches. They cover from ten to practically one hundred per cent of the surface.[23]

This solonetz type of soil tends to be alkaline, is difficult to work and where exposed supports very little vegetation. The almost impervious layer makes it difficult for both water and roots to penetrate very far into the soil and consequently limits the feeding range of plants. A

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[22] This classification is shown in Appendix C, Figure 5, in back pocket.

[23] F. A. Wyatt, J. D. Newton, W. E. Bowser and W. Odynsky, Soil Survey of the Rainy Hills Sheet, (Edmonton, 1937), Bulletin No.28, University of Alberta, 24.

large amount of this type of soil occurs in the area of the proposed Red Deer River Irrigation Development Project. Although some of the solonetz soils can be avoided a great deal would have to be included in the irrigated area. Field tests and experiments to determine the agricultural value of soils under irrigation conditions are presently being carried out near Youngstown by the Department of Soil Science and the Research Council of Alberta.

The organic material is for the most part distributed in the upper three to five inches of topsoil. There is a slight increase in depth of this organic material in the northern part of the area. In 'blow-out' areas the organic material may be only very slight or entirely absent. The low organic matter content of these soils coupled with the usually dry conditions makes them very subject to erosion unless extreme care is taken in cultivation and grazing practices.

The precipitation for the area has always been such that a heavy grass covering cannot be sustained. As a result little organic matter is built up each year through the growth of native vegetation. In one respect the low precipitation over the area is an advantage in that there is little leaching out of essential plant minerals from surface and subsurface soils. The potassium content of the soils is generally considered adequate for grain production. Though the nitrogen and phosphorus content is not considered high, it is sufficient to grow good grain crops providing enough moisture is present. It has not been determined to what extent this soil could sustain constant heavy yields of grain without the addition of fertilizers, should a long period of above normal precipitation occur. From what is known of the soil and the precipitation records there is little likelihood of such a condition ever occurring.

5. Vegetative Cover

The major vegetative cover over the whole area is that of a mixed grass prairie.[24] There is not complete agreement, however, on such terminology. One authority calls the major portion of the region a short grass prairie and the remaining northern part a mixed prairie type of grass cover. This author justifies the two classifications by pointing out that in the typical mixed prairie the short grass species are less abundant while the mid grasses are taller and more prominent.[25]

Few trees or shrubs grow in their natural habitat except in the transition region from prairie to parkland in the central portion of the most northerly part of the area. In the central and southern sections of the region trees and shrubs seldom occur even along the water courses. In the northern part scattered clumps of trees and shrubs frequently occur around small sloughs and along stream beds. Trees are quite prominent along the greater part of the Red Deer river valley. Planted groves of trees while being few to absent in the southern sections are for the most part more numerous as one goes north. Many of these groves while appearing practically dead in the 1930's recuperated in the 1940's and since 1950 have made rapid growth. These groves are either artificially watered or have access to a subsoil moisture supply.

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[24] E. H. Moss, "The Vegetation of Alberta", The Botanical Review, Volume XXI, (November, 1955), No.9, 507-8.

[25] S. E. Clarke, E. W. Tisdale, N. A. Skoglund, The Effects of Climate and Grazing Practices on Short Grass Prairie Vegetation. Dominion Department of Agriculture, Technical Bulletin No.48, Publication No.747, (Ottawa, 1947), 10.

Wild rose bushes and varieties of sage and buckbrush are frequently common to the landscape. Throughout the area short clubmosses are to be found mixed with the grass cover. In many previously over grazed or blown out areas Prickly pear cactus clumps are occasionally quite prominent.

Native grasses and sedges comprise about 81 per cent of the vegetative cover.[26] The dominant species is Blue grama grass, Bouteloua gracilis. This grass accounts for about 38 per cent of the grass cover. Common speargrass, Stipa compata, makes up another 20 per cent. Bluejoint or Western wheatgrass, Agropyron smithii, comprises about 11 per cent and has one of the highest forage values of the grasses. June grass, Koeleria cristata, Sandberg's blue grass, Poa secunda, and sedge, Carex filifolia, make up the remainder of the 80 per cent.[27] Little clubmoss, Selaginella densa, comprises about 12 per cent of the remaining cover. Frequently 40 or 50 per cent of the vegetative cover may be composed of these plants. Various weeds, wild flowers and small shrubbery species make up the remaining ground cover.[28]

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[26] For a complete list of principal plant species see Appendix A, Table IV, pages 158 - 160.

[27] For details regarding plant density see Appendix A, Table V, page 161.

[28] Clarke, Tisdale and Skoglund, op. cit., 14-15.

The native vegetation of the area is composed of species that are well adapted to withstand the great changes in climatic conditions that occur. The dominant grasses are low growing perennial species. Most of the principal plants develop very quickly in the spring and early summer. By the time the mid summer drouth has begun the plant's growth is nearly complete. It is only during seasons of abnormal precipitation that the majority of the species are able to produce much seed, though many of them do reproduce themselves by means of vegetative propagation.

In most years the majority of grasses have used all of the available moisture by the end of July. This results in a gradual drying and curing of the plants.

> This curing of the native grasses is one of the principal factors which make the region so well adapted for range livestock production. The dried plants remain erect and available for grazing for many months after drying while their nutritive value is generally adequate for the maintenance of range livestock in good condition.[29]

One exception to the usual drying off in July is that of Blue grama grass. This grass starts its growth during the first few days of May, nearly a month after the principal species. Though it will stop growing when moisture is no longer available, it quickly recovers and resumes growth when rain occurs.

6. Transportation

The Special Areas are serviced with an adequate amount of railways. The Goose Lake line of the Canadian National railways cuts across the

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[29] Clarke, Tisdale and Skoglund, op.cit., 24.

central portion of the area west to east. Approximately twenty-five miles farther north a parallel line of the Canadian National also crosses the area. A few miles of this track have recently been taken up. The remaining portions are still in use. These two railways are connected on the western side of the area by a short north and south line. A Canadian Pacific line crosses the area from west to east and services the northern part of the Special Areas. Another Canadian Pacific line was built in the early years from Coronation to Youngstown with the view of continuing it to Medicine Hat. This line has never been used, and according to officials of the company part of the track at least will be removed for scrap this year. Just east of Hanna, a dead end branch line of the Canadian National railway goes south for over fifty miles and terminates just north of the Red Deer river. This railway was originally planned to continue to Medicine Hat but construction was stopped when it became apparent that the area it would pass through would never be very productive. The Bassano-Swift Current branch of the Canadian Pacific railway serves the inhabitants of the region south of the Red Deer river. A branch of this line enters the area at Bullpound and follows the north bank of the Red Deer river to Drumheller. So far as production of goods for railway cartage is concerned, the Special Areas have more miles of trackage than are economically justifiable. It is, however, interesting to note that both Canadian Pacific and Canadian National officials state that all right-of-ways which they own will be indefinitely retained.[30] They explained that there may still be changes in the economic development of the region. The railway officials of both companies regard the

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[30] For more complete details on railways see Land Classification Map, Appendix C, Figure 5, in back pocket.

development of coal, oil and gas resources as possible sources of freight in the coming years. At the present time the freight carried by the Canadian National from Hanna to Wardlow is largely made up of oil from wells in the region.

The roads and highways of the Special Areas are in most cases many miles apart. There are few all weather, high grades. A centrally located west-east paved highway, passing through Hanna will soon be completed. This will provide good travelling facilities to Calgary and to points in Saskatchewan. Another major west-east gravel road crosses the area fifty miles farther north. Besides another west-east gravel road at the south end of the Special Areas there are several north-south low grade gravel roads. While the majority of roads do not insure all weather travel, they are better than might be expected in an area where dwellings are so widely scattered.

7. Population

The population of the Special Areas as now constituted has varied greatly since the first recordings of settlement figures. The reasons for the exodus of the population from the farm land are outlined in detail in the preamble of the Special Areas Act, 1938. Quotations from this Act are given on page 26. For the purpose of this study rural population figures which do not include incorporated villages and towns are primarily considered. Census subdivision areas do not entirely correspond to the present Special Areas. Because of this a few estimates of population figures have had to be made. These estimations are for the most part calculated by taking the rural population figure for the township concerned and multiplying it by the per cent of the land area

of that township that is contained within the Special Areas.[31]

The estimated rural population of the present Special Areas was only 187 in 1906. By 1921 this figure had jumped to 26,031. The drouth years of the early twenties resulted in a large exodus so that there were only 19,344 people classed as rural population in 1926. The increased moisture conditions and higher prices in 1927 and 1928 apparently temporarily stopped the movement from the land with the result that there were 20,320 classed as rural population in 1931. The drouth and low price years of the 1930's reduced the rural population to 14,967 in 1936 and later to 11,794 in 1941. Apparently World War II had little effect on the rural population of the Special Areas. A reason for this may have been the tendency of this area to be populated by an older age group. In 1946 the rural population was 9,542, and by 1951 it was 8,430. This slowing down of the movement of the rural population appears to indicate that the farm population had begun to stabilize itself about 1951, so it is quite possible that the 1956 census figures may show no further decrease in population.

The town and village population of the Special Areas grew steadily up to 1931, at which time it was 3,754. The population dropped to 3,038 in 1936 and has increased steadily since that time. In 1951 the town and village population was 4,076, making a total, when combined with the rural population, of 12,506 people.[32]

Population by townships for the various years indicates the areas which have not been able to sustain a large agricultural population. When the population figures are compared with the amount of various land

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[31] For details on population by townships see Appendix A, Table VI, pages 162-172.

classes within the area, the relationship between soil classifications and population may be even more clearly seen.[33]

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[32] For details on population of incorporated towns and villages see Appendix A, Table VII, page 173 and Table VIII, page 174 for total population.

[33] For details regarding the relationship between population and soil classification see Appendix C, Table XI, pages 212-222.

CHAPTER II

HISTORICAL BACKGROUND

A study of the early settlement in Western Canada reveals that there were three distinct periods in the development of land policy: (1) 1670-1870 when the Hudson's Bay Company was in control, (2) 1870-1930 when there was Dominion Government administration, and (3) 1930 to the present with Provincial Government control. Each of these administrations has had its own particular objective.

The Hudson's Bay Company aimed to encourage fur-trading and therefore to discourage colonization and land settlement. For this reason it may be said to have had no land policy. When the Dominion Government administration took over from the Hudson's Bay Company in 1870, there were few, if any, settlers in the area now known as The Special Areas. By the terms of the agreement of 1870 with the Dominion Government the Hudson's Bay Company retained one-twentieth of the land located in the fertile belt of Western Canada. Some of this land was located in what is now The Special Areas of Alberta.

The Dominion Government in its desire to create a consuming public and supply a market for the eastern manufacturer did not particularly worry about using the land according to its best use. In fact it completely ignored the warning of Captain John Palliser that the large triangle of land situated in southeastern Alberta and southwestern Saskatchewan was entirely unsuitable for agricultural settlement.[1] This warning had also

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[1] V. A. Wood, "Alberta's Public Land Policy, Past and Present", Journal of Farm Economics, Volume 33, No.4, Part 2, (November, 1951), 735-7.

been given by other competent persons, for example, Commissioner French of the North West Mounted Police in 1874.[2]

At this time government officials introduced a grid system of survey similar to that already in use in the western United States. Townships, six miles square, were set up, and provision was made for railways, school lands and the Hudson's Bay allotments. To encourage railway development over 13 million acres were granted to railways in Alberta. The odd-numbered sections, other than sections 11 and 29 in each township which were kept as school lands, were reserved as grants to railway companies. Since the railway companies were interested in quick settlement, they offered very easy terms to settlers who wished to settle on their land. The Hudson's Bay Company was given sections 8 and 26 in all townships south of the North Saskatchewan river. This land and the school lands were withheld from settlement for many years.[3] The Hudson's Bay Company sold the last of its land in The Special Areas to the Alberta Government in 1953, and the Canadian Pacific Railway company still holds title to a very small acreage of agricultural land in The Special Areas.

Quarter sections in each of the remaining sections were thrown open for homesteading by the Dominion Government. Title could be obtained by a male British subject over 18 years of age, who made an initial payment of ten dollars, spent three years in residence, and cultivated a specific area of land. Grazing leases could also be obtained. In 1874 government land policy was changed to allow a settler to buy

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[2] Special Areas Board, First Annual Report, 1938, (typed), 1.

[3] Wood, op. cit., 737-8.

another quarter section from the government if he held title to his original quarter.[4]

> From 1900 to 1916 reasonably satisfactory crop yields were enjoyed. Credit was available and war prices lent temporary security during the latter part of the period. This development was based largely upon assumed agricultural prosperity and values, with total disregard for the limitations which were known to exist.[5]

At the same time settlement was encouraged.

> In the years 1910, 1917, 1918, 1921 and 1922 extensive drouth visited the West, making it necessary for the Dominion Government to come to the aid of destitute farmers in the drouth areas of Alberta.[5]

Severe drouth occurred again in 1929, through most of the 1930's and again in 1945 and 1949. These drouth periods were largely instrumental in the beginning of Dominion Government aids and supports to agriculture in western Canada. These drouth periods were extremely severe in the Special Areas region. As a result numerous settlers lost their land through non-payment of taxes. Much of this land was bought or leased by those remaining and so settlement became scattered. The amount of such land has not been sufficient to allow all farmers to acquire additional land. This could only take place if there were a further substantial reduction in the number of farms in the Special Areas. Even if this were to take place it is quite likely that the large farms would increase in size and the small ones remain the same.

When the Provincial Government took over control in 1930 it inherited many problems. A definite attempt was made to place people on homesteads more suitable for agricultural production. In 1939 the granting of homesteads was discontinued and there came into being the

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[4] Wood, op. cit., 738-9.

[5] Special Areas Board, First Annual Report, 1938, (typed), 3.

Homestead Lease Policy. Rent now was payable as a small fraction of the crop so that homesteaders would not find themselves overburdened with tax arrears.[6] The sale of land was restricted in The Special Areas and leasing public land, where practical, became the government policy. A share of the crop in place of taxes also became the government policy for farm leases of public lands in such areas.

Although the settlers of the southeastern part of Alberta were in real distress by 1921, it was not until after four commissions had surveyed the situation that The Special Areas Act, which consolidated the area, was passed. This Act placed 'certain special areas' under the Department of Lands and Forests with full control over schools, roads, hospitals, taxes, public lands, etc.[7]

> The Special Areas Act was designed and is intended to mend in a measure the mistakes of a land settlement policy which had placed thousands of settlers upon lands which were capable of sustaining only a small fraction of their number--the tragedy of Western Canada.[8]
>
> Regulations were established to prevent any new settlement, and the land classification of the Dominion Agricultural Economic Surveys was adopted. Nonarable public lands were leased for grazing only, and regrassing of abandoned lands was encouraged. In 1948 the administration of the special areas was turned over to the Department of Municipal Affairs with the hope that eventually the readjustment of land use would be completed and local government restored.[9]

Increased knowledge of agricultural practices, improved varieties of grain, the availability of larger tracts of land for cultivation or grazing per individual farmer, assistance by the Prairie Farm

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[7] Ibid, 745-6.

[8] Special Areas Board, First Annual Report, 1938, (typed), 13.

[9] Wood, op. cit., 746.

Rehabilitation Act in improving water supply, the Prairie Farm Assistance Act in providing payments on cropland producing very low yields, and other agricultural aids and supports have all helped to stabilize the farms in the Special Areas and make them more tenable than they were during any former period.

Since 1940 the average moisture conditions of The Special Areas have been slightly improved. In spite of Provincial Government precautions, the general increase in farm prices and the occurrence of occasional wet years have tended to increase the land under cultivation and to increase the dangers of wind erosion and destitute farmers when a period of extremely dry years once again return.

Although the movement from the land in the Special Areas was great, it was no greater than that which occurred in parts of Saskatchewan where no Special Areas were created. In an adjoining subdivision there was a rural population of 46,000 in 1921. This had decreased to 36,705 in 1931, to 30,069 in 1941, and to 16,687 in 1951. In the same period the rural population of the Special Areas had dropped from 26,031 in 1921 to 8,430 in 1951. This comparison indicates that the agricultural conditions in these regions during the years indicated had approximately the same effects in both provinces insofar as exodus from the land is concerned. It must also be realized that this exodus was a result of a general movement in western Canada away from agriculture and into industry in urban centers.

There are no available records of the exact losses sustained by the people who were forced to leave their land. For the most part such

farmers lost their land and, in many cases, other possessions owing to their inability to pay taxes or to pay mortgage companies to which they were indebted. As a result farmers who left the drouth areas were in a much worse financial situation than when they first settled on the land.

PART B - LEGISLATION

A brief review of the steps taken by the Alberta Government in an effort to alleviate the suffering of settlers in the drouth areas of the south eastern part of the province is given. The causes and major clauses of the Special Areas Act of 1938 and subsequent amendments are summarized. The public lands legislation pertaining to cultivation and grazing leases and permits is reviewed. In addition to giving a historical survey of the legislation in Chapters III and IV, copies of the various acts, orders-in-council and regulations are included in the appendix to provide the reader with a complete reference on Special Areas legislation.

The powers and responsibilities of the Special Areas Board are outlined in Chapter V, while the privileges, advantages and restrictions placed on residents of the Special Areas are reviewed in Chapter VI. Perusal of these chapters makes it possible to see quickly the Provincial Government's method of approaching the problems peculiar to the drouth area.

PART B - LEGISLATION

CHAPTER III

SPECIAL AREAS LEGISLATION

In 1927 an act[1] was passed by the Provincial Legislature giving the Lieutenant Governor in Council special powers regarding the Tilley East Area. Five years later a similar act[2] was passed respecting the Berry Creek Area. In 1934 the two previous acts were repealed and a single act[3] consolidated these two areas and slightly altered boundaries. In this Act special provision was made for (1) the settling of arrears of taxes, (2) the creation of public lands out of any land acquired in the area under The Tax Recovery Act or any other Provincial Act which is classified by the Board as unsuitable for agricultural settlement, (3) the transfer of public lands not suitable for agriculture to the Minister of Municipal Affairs, the cancellation of taxes upon the acquisition of such, and the application of any net revenue received from these towards the payment of taxes owing, (4) the continuance of any previous arrangement made for the payment of tax arrears, (5) regulations regarding grazing leases, and (6) for the constitution of pound districts.

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[1] Statutes of Alberta, Chapter 45, An Act respecting the Tilley East Area, (Edmonton, 1927), 149.

[2] Statutes of Alberta, Chapter 55, An Act respecting the Berry Creek Area, (Edmonton, 1932), 257.

[3] Statutes of Alberta, Chapter 61, An Act to amend and consolidate an Act respecting The Tilley East Area and The Berry Creek Area Act, (Edmonton, 1934), 403.

The Special Areas Act, 1938[4], repealed the 1934 Act but declared that all proceedings instituted under this Act should be continued. The preamble of the Act gives the reasoning behind Special Areas Legislation.

> Whereas certain areas of the Province include a considerable amount of land which by reason of insufficient rainfall, inferior quality of soil and other causes, cannot by the use of ordinary methods of agriculture be made to yield over a period of years produce in sufficient amount to provide the persons farming such land with the means of livelihood; and
>
> Whereas a large proportion of such lands has been abandoned by settlers and investors due to their inability to secure an adequate livelihood or compensation therefrom; and
>
> Whereas it is expedient to promote and encourage the development and conservation of all natural resources common to the aforesaid lands to the end that greater stability of income may be enjoyed by those settlers remaining within the area; and
>
> Whereas it is desirable that such assistance be given as will promote a greater diversity and stability of income for the residents within the area to the end that they may become more self-supporting;[5]

therefore the Legislative Assembly of the Province of Alberta enacted legislation to cope with these circumstances in the Special Areas.

> Under this Act the Lieutenant Governor was given power to constitute a Special Area, or Special Areas in that part of the Province lying west of the easterly boundary of the Province and south and east of lines running west between townships 38 and 39 to range 21, then south on range line between ranges 20 and 21 to township 22 and then west along township line between townships 22 and 23, and the lands so included in any Special Area shall be considered as unsuitable for agricultural settlement.[6]

The Lieutenant Governor in Council was at the same time given wide powers over making "such orders and regulations . . . as may be deemed

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[4] Statutes of Alberta, Chapter 92, An Act to Amend and Consolidate the Special Areas Act, (Edmonton, 1938), 439-447.

[5] Ibid, preamble, 439.

[6] Ibid, section 3(a), 440.

proper . . . for the rehabilitation or betterment of any Special Area and the inhabitants thereof".[7]

The Areas were to be administered by the Special Areas Board under the Minister of Lands and Mines. This Board later came under the jurisdiction of the Minister of Municipal Affairs.[8] The Board, which is presently located at Hanna, was given wide powers under the Minister with regard to the acquisition of land, the use of land and all matters pertaining to its administration.

By the provisions of this Act all titled land registered in the name of the municipality was transferred to the Crown. Transfers of title could also be accepted from individuals, land could be acquired by purchase and public lands could be exchanged for other land within the Special Areas. Allowance was made for the continuance of Tax Recovery Act proceedings. Though the Board was to act as agent of the Minister it could not sell or lease any public land without the consent of the Minister.

In respect to land use in any Special Area the Minister was empowered

> to direct that any of the public lands or interest therein within a Special Area shall be dealt with in such manner as may seem to him to be for the benefit of the residents of the Special Area, or to prohibit the dealing therein in any manner which seems to him to be detrimental to such residents;
>
> to lease public lands within a Special Area at such rentals, including taxes, as may seem fair and equitable;
>
> to set aside lands for community purposes, such as grazing

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[7] Ibid, section 3(e), 440.

[8] Alberta Gazette, (Edmonton, May 15, 1948), Order in Council 550-48.

> reserves, hay reserves, water reserves and irrigation, and to make such provisions for the administration thereof as may be deemed advisable; . . .
>
> to order and require any owner or occupant of lands to adopt such methods of farming or grazing, or farming and grazing as may be deemed necessary to prevent soil drifting or over-grazing, or any hazard which may dissipate or nullify any assistance rendered to residents within the Special Area;
>
> to promote approved farm cultural practices and efficient range management, also such community effort and enterprise as may contribute to greater economic security of residents of the Special Area.[9]

The Minister was empowered

> to receive the money payable in respect of any lease, or any interest in public lands in a Special Area and to expend such moneys, or any part thereof as he may deem advisable for the following purposes or any one of them:
>
> (i) the construction and maintenance of roads, schools and hospitals;
>
> (ii) any social services;
>
> (iii) the costs of administration;
>
> (iv) the development of any natural resources;
>
> (v) the carrying out of improvements within any Special Area; and
>
> (vi) the rehabilitation of settlers within any Special Area.[10]

By this Act six Special Areas were constituted, and the subsequent Special Areas Act of 1939[11] grouped and numbered these Areas

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[9] Statutes of Alberta, Chapter 92, An Act to Amend and Consolidate the Special Areas Act, sections 4(a), (b), (c), (f), (h), (Edmonton, 1938), 441-2.

[10] Ibid, section 4(d), 441.

[11] Statutes of Alberta, Chapter 34, An Act to Amend and Consolidate the Special Areas Act, 1938, (Edmonton, 1939), 179-193.

as follows: Number 1, The Tilley East Special Area; Number 2, The Berry Creek-Sullivan Lake Special Area; Number 3, The Sounding-Creek-Neutral Hills Special Area; and Number 4, The Bow West Special Area.[12]

The Special Areas Act of 1939 slightly amended and added to the provisions of the Special Areas Act of 1938. For the first time the various Special Areas were defined in detail.[13] Each Special Area was constituted as a Special District and assigned a number as indicated above. Municipal districts within a Special District were disorganized but provisions of the Improvement Districts Act, 1927, were retained. In cases where the amount of taxes levied and collectable in any year was insufficient to defray the expenditures of the Special District provision was made to make up the deficiency from the Provincial Treasury. At the same time the rights and privileges enjoyed under The Local Tax Arrears Consolidation Act, 1935, were discontinued for any Special Area except where agreements had been entered into prior to March 31, 1939. In cases where such agreements came into default the agreement became automatically cancelled. By the Act public lands within a Special District were taken off assessment and taxation roles. Provision was made for the exchange of privately owned land for public land. In cases where such private land had tax arrears encumbrances such encumbrances could be transferred to the public land concerned.

The Special Areas Act, 1939, was subsequently amended in 1940[14],

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[12] For location of these Areas see Appendix B, Figure 4, page 176.

[13] Statutes of Alberta, Chapter 34, An Act to Amend and Consolidate the Special Areas Act, 1938, (Edmonton, 1939), 180-4.

[14] Statutes of Alberta, Chapter 28, An Act to Amend The Special Areas Act, 1939, (Edmonton, 1940), 91-2.

1941[15], 1942[16], 1943[17], 1948[18], 1949[19], 1951[20] and 1953[21]. Except for minor changes these amendments did not greatly alter The Special Areas Act, 1939[22]. By the 1941 amendment the Minister was given power to close any roads, trails or bridges for the purpose of travel within a Special District.

By Orders in Council in 1941[23], The Special Areas Act was amended by withdrawing practically all of the area of the Tilley East Special Area lying south of a line drawn midway in township 20 from the west side of range 10 to the west side of range 1.

Later in the year the remaining portion of this area was withdrawn from the Tilley East Special Area and added to the Sounding Creek-Neutral

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[15] Statutes of Alberta, Chapter 74, An Act to amend The Special Areas Act, 1939, (Edmonton, 1941), 351.

[16] Statutes of Alberta, Chapter 40, An Act to amend The Special Areas Act, 1939, (Edmonton, 1942), 157.

[17] Statutes of Alberta, Chapter 23, An Act to Amend The Special Areas Act, (Edmonton, 1943), 119-120.

[18] Statutes of Alberta, Chapter 51, An Act to amend The Special Areas Act, (Edmonton, 1948), 283.

[19] Statutes of Alberta, Chapter 95, An Act to amend The Special Areas Act, (Edmonton, 1949), 513-5.

[20] Statutes of Alberta, Chapter 83, An Act to amend The Special Areas Act, (Edmonton, 1951), 569-570.

[21] Statutes of Alberta, Chapter 107, An Act to amend The Special Areas Act, (Edmonton, 1953), 413.

[22] For fuller details on Special Areas Acts see Appendix B, pages

[23] O.C.644-41, (Edmonton, May 13, 1941), Alberta Gazette, Vol.37, 1941, The Alberta Gazette, May 31, 441-442, and O.C.645-41, same volume, 439-440.

Hills Special Area[24]. This area was later withdrawn from the Sounding Creek-Neutral Hills Special Area No.3 and added to the Berry Creek-Sullivan Lake Special Area No.2[25].

By another Order in Council in 1954 the Bow West Special Area was deleted from the Special Areas Act[26]. The most recent change was brought about by an Order in Council in January 1955 which deleted certain small fringe areas from the Special Areas[27].

No further alterations of boundaries are contemplated at the present time.[28]

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[24] O.C.901-41, (Edmonton, July 8, 1941), Alberta Gazette, Vol.37, 1941, The Alberta Gazette, May 31, 600-601.

[25] O.C.1828-43, (Edmonton, November 25, 1943), Alberta Gazette, Vol.39, 1943, The Alberta Gazette, December 15, 1043-4.

[26] O.C.889-54, (Edmonton, June 20, 1954), Alberta Gazette, Vol.50, 1954, The Alberta Gazette, June 30, 1075.

[27] O.C.3-55, (Edmonton, January 4, 1955), The Alberta Gazette, January 15, 1955, 53.

[28] For exact boundaries of Special Areas at present time see Soils Map, Appendix A, Figure 3, in back pocket.

CHAPTER IV

PUBLIC LANDS LEGISLATION

The Public Lands Act of Alberta contains certain sections and additions through amendments and orders in council that pertain especially to leases and permits for the use of land within the Special Areas. By Orders in Council on April 25, 1951, six groups of regulations were added.

The first[1] stated that cultivation leases may be issued to applicants who were the owners of such lands or who had previously held a beneficial interest in them. Such leases are for a term of twenty years and are renewable for a further term of twenty years. In such cases the lessee retains his full right of ownership of property on the said land. The lessee must pay in advance a cash rent on each acre of the uncultivated land at the prevailing rental as well as a one-eighth share of the crop. If the grain yield is less than is necessary to meet the costs of production the crop may be termed a failure and no crop share becomes due. The lessee has the privilege of cutting hay without charge on the unbroken portion of the lease up to the extent of three tons for each head of cattle in accordance with the carrying capacity of the lease, as determined by the government survey. Such hay may not be sold. By these regulations the area of land that is under cultivation at the date when the lease is granted cannot be increased without the

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[1] O.C.431-50, (Edmonton, April 25, 1950), Alberta Gazette, Vol.46, The Alberta Gazette, May 15, 582-6.

consent of the Special Areas Board.

The second[2] added regulations which provided for a ten year accrued area lease. Such leases were, with provisions, grantable to individuals who had claims to other adjoining land but not directly to the land in question. The lease as provided for in these regulations is similar to the previous one except that the lessee does not own the property on the land and that the cultivated land rental is a one-sixth share of the crop.

The third[3] added regulations governing the issue of cultivation permits on public lands within the Special Areas. This provided that cultivation permits should be valid only from the date of issue to the 31st of March the following year. The rental payment on the land assigned by cultivation permit may be either on a cash or a one-sixth crop share basis as prescribed by the Minister of Municipal Affairs.

The fourth[4] added regulations governing the issue of grazing permits on public lands within the Special Areas. These regulations are similar to those set down for cultivation permits. As with other leases, the permittee has prior right to a renewal permit providing all regulations have been complied with. All rates, assessments and taxes charged against the property for the year must be paid by the permittee.

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[2] O.C.433-50, (Edmonton, April 25, 1950), Alberta Gazette, Vol.46, The Alberta Gazette, May 15, 588-9.

[3] O.C.429-50, (Edmonton, April 25, 1950), Alberta Gazette, Vol.46, The Alberta Gazette, May 15, 1950, 578-580.

[4] O.C.428-50, (Edmonton, April 25, 1950), Alberta Gazette, Vol.46 The Alberta Gazette, May 15, 1950, 575-8.

The fifth[5] added regulations governing the issue of miscellaneous leases on public lands within the Special Areas. The leases so described may be for residential, commercial or other uses. Leases so described are for more than one year but may not exceed ten years. They are renewable on such terms and conditions as may be prescribed by the Minister of Municipal Affairs and providing all the conditions of the former lease have been met.

The sixth[6] added regulations governing the issue of hay permits on public lands within the Special Areas. By this order the charge for cutting hay on public land was established at fifty cents per ton for wild hay and $1.50 per ton for tame hay.

By a separate order in council in 1951[7] regulations were again added with respect to the issue of irrigation leases on public lands within the Special Areas. This lease is for a term of twenty years though it is subject to review every five years. It is subject to cancellation after two years if the lessee does not comply with correct irrigation practices. For the use of such land the lessee must pay in advance a yearly cash rental as determined by the Minister of Municipal Affairs for each acre leased together with an amount of fifty cents per acre on the irrigable acreage. This rental on the irrigable acreage shall

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[5] O.C.432-50, (Edmonton, April 25, 1950), Alberta Gazette, Vol.47, The Alberta Gazette, May 15, 1950, 586-587.

[6] O.C.434-50, (Edmonton, April 25, 1950), Alberta Gazette, Vol.46, The Alberta Gazette, May 15, 1950, 590-592.

[7] O.C.1211-51, (Edmonton, August 20, 1951), Alberta Gazette, Vol.47, The Alberta Gazette, August 31, 1160-1162.

not, however, be charged for two years from the date of issue of the first lease. If a small crop results from an insufficient supply of water in any year the Minister may waive a portion or all of the rental. The Minister may also order such land to be seeded to crop and irrigated if it is not being so used.[8]

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[8] For further information on leases see Appendix B, Lease Legislation, pages 192-204, especially items 11, 28,29, 35 and 38. Also see note on page 204.

CHAPTER V

SPECIAL AREAS MANAGEMENT

The area as now constituted involves some 320 townships. The Special Areas Board appointed by the government is responsible for the carrying out of Special Areas legislation. Though the Board is under the direction of the Minister of Municipal Affairs, it is for the most part an autonomous body.

The central office is located at Hanna. Additional district offices are maintained at Oyen and Consort. Each office employs a chief clerk and a fieldman as well as the required stenographic and clerical assistance.

The Special Areas Act makes provision for an advisory committee whose function it is to confer and advise the Board as to matters affecting the inhabitants of the Special Areas. Each member of this committee is annually elected by the rate-payers of their respective subdivisions. There are thirteen subdivisions. The committee meets at the Board's request, and except for travelling and subsistence expenses while attending meetings, serve without remuneration. From available records it appears that usually only one group meeting each year is held.

Approximately 70 per cent of all lands within the Special Areas is now classed as public lands.[1] This leaves only 30 per cent subject to assessment for taxation purposes. The public lands are occupied under

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[1] Includes crown lands.

either lease or permit agreement. The revenue derived from such land is either by way of rental per acre if used for grazing or by a share of the crop if used for crop production. Payment of taxes, lease rentals, crop share payments and other charges are received by the various district offices. The fees so collected are subsequently remitted to the Department of Municipal Affairs.

The Department of Municipal Affairs is responsible for keeping the actual accounts pertaining to charges against all lands within the area and also for the preparation and mailing of all billing notices and sending out of all final receipts. This department is also responsible for the major portion of the accounting covering the operations and transactions of the Special Areas as well as the preparation of the annual financial statement. All major purchases are made through the purchasing agency of the provincial government.

The administration of public lands rests entirely with the Special Areas Board. Permits for either grazing or cultivation are issued annually. All such permits expire on March 31. Cultivation leases are for a term of twenty years if going to a former owner or for ten years if the lessee had no former claim to the land. Grazing leases are for a term of twenty years. Such leases are all renewable upon expiry providing the Board is satisfied that the terms of the agreements have been fulfilled.

Provision is made in the Special Areas Act to make it impossible for individuals to acquire more grazing lease than will maintain four hundred head of cattle at the rate established with the carrying capacity of such land. The Minister of Municipal Affairs, however, has authority to allow additional lands to be included in such a lease if he considers conditions warrant it and if inclusion of such lands does not impose a

hardship on other residents. As a result of this clause a few large leases are in force.

The Board supervises the operation of four community pastures. Two of these, Buffalo-Atlee and Remount, are situated south of the Red Deer river. The other two, Bullpound and Sounding Creek, are respectively situated in the west central and east central regions of the Special Areas. Each pasture is looked after by a full time range rider who is responsible for the admission, withdrawal and care of stock within the pasture.[2]

The only elections carried out within the area for the purpose of local self-government are those carried out annually in the thirteen subdistricts for the purpose of electing Advisory Committee members and a local Road Committee. The Committee member may advise and make recommendations to the Special Areas Board and together with other committee members may pass on resolutions to the Board for its consideration. The members of the elected Advisory Committee do not, however, have any power other than that of suggestion. The Board may or may not act upon their suggestions. In most cases the Board gives careful consideration to such suggestions providing it is within its power to do so. The elected Road Committees advise the Board on necessary road maintenance and construction that is required in the various sections of the Special Areas.

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[2] J. H. Todrick, "Special Areas Management", The Alberta Municipal Counsellor, May, 1956, Vol.1, No.5, 3 and 8.

CHAPTER VI

SPECIAL AREAS PRIVILEGES

1. Statutory Privileges[1]

In brief the special statutory privileges pertaining to the Special Areas but not to municipalities or improvement districts are as follows:

1. Provision for the Provincial Treasurer to provide for deficiencies of revenue for the operation of the Special Areas. This provision has never been taken advantage of.
2. Provision for measures and policies which would conserve and develop all available surface land resources within the Special Areas and thus give greater stability of income to farmers and ranchers within the region.
3. Exemption from payment of Land Titles Office fees and fees in connection with advertising in the Alberta Gazette under the provisions of the Tax Recovery Act.
4. Privilege of only advertising tax recovery lands in one issue of a newspaper having general circulation in the area.
5. Provision for capital assistance to the various school divisions within the area. Similar assistance was later given to other areas of the province by The School Assistance Act, 1952, and its amendment in 1953.

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[1] O. S. Longman, J. W. Judge and V. A. Wood, A Preliminary Report on the Special Areas of Alberta, (Edmonton, 1953), 6-10. (typed)

2. Administrative Privileges and Advantages[2]

The following privileges and advantages are not available to residents in municipal districts and improvement districts:

1. A part of the costs of administration in the form of salaries are paid out by the Provincial Treasury. Improvement districts enjoy similar consideration though it is doubtful if the amount has ever been as great.
2. The benefits of qualified administrative personnel who are retained on governmental salary tend to keep administrators who are familiar with the Special Areas problems.
3. The Special Areas Board can control the terms of occupancy and so have the power to improve land use.
4. Purchasing of necessary supplies and equipment is made through the government purchasing agency and so no excise or sales taxes are added to these costs.
5. Administrative authorities have authority to close surveyed road allowances and to lease such lands without being liable for accidents incurred on such road allowances.
6. Revenues from cultivation leases and permits on crown (unalienated) lands other than school lands are fully retained within the area. Municipal districts receive 80 per cent. In 1945 it was estimated that 25 per cent of the crown land in the Special Areas was unalienated.
7. Grazing land rentals at a lower rate than other similar land

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[2] *Ibid*, 10-12.

throughout the province. The Special Areas also receive an advantage over municipalities in what is received from grazing charges on crown (unalienated) lands. It is estimated that when all factors are considered the Special Areas receive a 50 per cent concession in respect to such unalienated grazing lands which are not vacant or within community pastures.[3]

3. Privileges of Residents within the Special Areas

The following privileges are not enjoyed by municipalities or improvement districts:

1. The privilege of retaining full ownership of land, by foregoing title to patented land, and taking out a twenty year lease under which an eighth share of the crop is paid.
2. Privilege of occupying land under a ten year cultivation lease, and paying a one sixth share of the crop instead of taxes.
3. If land is to be seeded to grass the lessee does not pay any share of the crop to the administrative authorities for the two years prior to such a program. Such a resident also obtains special privileges by being able to obtain such grass seed at half price.

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[3] C. G. Macgregor, Notes on Cultivation and Grazing Leases Revenues in Special Areas as Compared with Cultivation and Grazing Leases Revenues in Organized Municipalities, Province of Alberta, Department of Municipal Affairs, (Edmonton, 1952). (typed)

4. Residents of the Special Areas have prior right to any available public lands within the area.
5. Where possible and feasible residents may exchange public lands which they are leasing for other public lands.[4]

4. Restrictions of Residents within the Special Areas.

The following restrictions prevail in the Special Areas but not in municipalities or improvement districts:

1. The restriction of not being allowed to elect a local self-governing body.
2. The restriction of having to accept the decisions and administration of the government appointed Special Areas Board.
3. Restrictions on the sale of public land that has been repossessed under the provisions of The Tax Recovery Act. Although a few small parcels of such land have been resold the amounts are negligible.
4. Restrictions on the privileges of competitive bidding for grazing and cultivation leases on public land that has been repossessed under The Tax Recovery Act.

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[4] Longman, Judge and Wood, op. cit., 12-13.

The extensive amount of legislation passed by the Provincial Government indicates that there has been a consistent effort to correct earlier mistakes made in the use of land in the Special Areas. It is evident from the legislation that the principal endeavour of the government has been to regain the ownership of as much land in the area as possible. When the title to such land has been obtained the land can then be leased for either cultivation or grazing purposes for a limited period. At the present time at least 70 per cent of the land in the Special Areas is under government ownership, and so the amount that can be purchased or sold is extremely limited.

Although there are several privileges and advantages enjoyed directly and indirectly by residents of the Special Areas, which are not available to residents in municipal or improvement districts, such privileges have not been sufficient to influence some residents to remain within the Special Areas boundaries. This is evident from the fairly recent deletions of some regions from the Special Areas. The broad powers given to the Minister of Municipal Affairs and to the Special Areas Board make it possible to carry out an agricultural policy whereby a high degree of efficiency in land use could be developed.

PART C - LAND USE

The purpose of this section is to analyze land use in the Special Areas. In order to arrive at as accurate an analysis as possible several major sources of material have been used. One of these, a land classification, was compiled with the view that wheat would be the major source of farm income. It is discussed in Chapter VII. Since this classification was made in the 1930's, it is closely related to the physical conditions prevailing at the time the Special Areas Act of 1938 was passed. This land classification is still used as a guide to land use by the Special Areas Board, and, therefore, it must be given careful consideration even in analyzing land use today. Chapter VIII gives information regarding the present use of land.

Census figures provide the most inclusive and accurate information available. Chapters IX to XII show census data regarding the size of farms, the use of improved and unimproved land, and the number of livestock maintained. They thus give a more detailed picture of present land use. Chapters XIII and XIV present the financial side of the picture, showing the average value of farms and the income and expenditures of the Special Areas Board. Chapter XIII is concluded with an analysis of a recent study on land use in the Special Areas carried out by the Dominion Government. This helps to widen and support some of the conclusions reached earlier in the section.

PART C - LAND USE

CHAPTER VII

LAND CLASSIFICATION

1. Economic Land Classification

The type of soil by itself does not give a very clear picture of the value of land so far as agricultural use is concerned. To obtain an accurate valuation of land not only the potential of the soil, the amount of precipitation, length of growing season, closeness to markets, transportation facilities and prevailing prices for farm products, but also the amount of work required in production and other physical and cultural factors must be considered. Even with such data available the economic and social aspects of community life must be considered.

To classify land according to all of these features would be the ideal situation. The task of carrying out such classification for any particular area would be so enormous that it would be economically impractical. Even if it were possible, the changing economic conditions tend to make any such classification out of date within a few years.

Since the ideal classification is not practical, some modified means has to be used. The only major study that has been made on land use classification in the Special Areas is that which was completed by Stewart and Porter in 1942.[1] Their major consideration was to

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[1] A. Stewart and W. D. Porter, Land Use Classification in the Special Areas of Alberta and in Rosenheim and Acadia Valley, Dominion of Canada, Department of Agriculture, Publication No.731, Technical Bulletin No.39, (Ottawa, 1942).

determine which land in the area was submarginal, marginal or profitable for wheat production. Since the profitable land varied greatly in quality it was classed as either fair or good. In this classification, therefore, land was divided into four main classes: Class I, submarginal; Class II, marginal; Class III, fair; Class IV, good.

The problem of a potential settler in selecting land is to decide whether or not he can net a profit out of his labours on any specific parcel of land on which he may decide to settle. To arrive at an intelligent decision the settler must consider,

> first, the value of the output from the land, the revenue, and second, the costs incurred in producing this. The revenue would vary with the 'quality' of the land. Apart from any payment for the use of land, whatever form that payment might take, his costs would include payments for the things used in production; and if he is to be induced to settle, he would include as an essential element in his costs, a 'sufficient' return to his own effort and enterprise. When costs are defined in this way it becomes clear that three 'qualities' of land might be distinguished. First, land which could not be expected, in the long-run, to yield revenue sufficient to meet production costs. Second, land from which expected revenue is just equal to production costs. Third, land which could be expected to yield revenue in excess of costs.[2]

The first described type was called Class I or submarginal land, the second, Class II or marginal land and the third was divided into two classes, Class III, fair land, and Class IV, good land.

The size of farm unit is frequently the determinant of whether it will or will not be profitable. In this study Stewart and Porter used the three-quarter section farm unit as the basis of their study. Average receipts and average expenses of known farm units were applied

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[2] Ibid, 13.

to this size of farm to determine the net revenue.

It should be pointed out again that this classification dealt primarily with land classification in so far as wheat production was concerned. It appears that only about one-ninth of the total gross revenue was attributed to livestock sales.[3] In estimating returns for wheat sales, the average price at Hanna for the period 1921-36 was used. This price amounted to 92 cents.[4]

In order to fully understand how the specific classifications were made and to interpret the Land Classification Map[5] it is necessary to review the definition of these various land classes.

> Land Class I: This Class includes parcels which, without payment for their use, could not reasonably be expected, if used in a specialized wheat-producing unit, to provide, over a period of years, sufficient cash revenue to meet operating expenses, provide for depreciation, and enable the farmer operating on a three-quarter-section farm to secure cash earnings equivalent to the long-run wages and board of a hired man, that is, $585. The estimated bushels of wheat available for sale from these parcels is less than 375 bushels per quarter-section. Such land may be considered unsuitable for wheat production; and is defined as submarginal for this use. Land which cannot be expected to sustain wheat production might better be used for grazing.
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> Land Class II: This Class includes parcels which, without payment for their use, could reasonably be expected, if used in a specialized wheat-producing unit, to provide, over a period of years, sufficient cash revenue to meet operating expenses, provide for depreciation, and enable the farmer operating a three-quarter-section farm to secure cash earnings between the level of wages and board for a hired man and the

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[3] Ibid, 30.

[4] Ibid, Appendix C, 73.

[5] To see locations of the various soil classes see Land Classification Map, Appendix C, Figure 5, in back pocket.

level of past cash family living expenses of farm families, that is, between $585 and $891, the estimated bushels of wheat available for sale from these parcels ranging from 375 to 517 bushels per quarter-section. Such land may be considered marginal for wheat production, in the sense that it might be expected, in the long-run, to provide returns to the farmer sufficient to induce continuity of production. However, owing to the high variability of yields in this territory, the use of marginal parcels for specialized wheat production would seem to involve a considerable element of risk. Consequently Class II parcels might better be used under an organization of production combining wheat growing with the production of livestock along extensive lines, that is, in a combined wheat-growing and grazing unit.

Land Class III: This Class includes parcels which if used in a three-quarter-section, specialized wheat-growing unit, could reasonably be expected to provide the farmer with the same returns as at the upper limit of Class II, that is, returns considered sufficient to induce continuity of production, and leave net revenue ranging from $1 to $237 per quarter, the estimated bushels of wheat available for sale ranging from 518 to 795 bushels per quarter-section. Such land may be considered suitable for wheat production. Some payment could be made for its use without reducing the farmer's earnings below the level procurable from Land in Class II.

Land Class IV: This Class includes parcels which if used in a three-quarter-section, specialized wheat-growing unit, could reasonably be expected to provide the farmer with the same returns as at the upper limit of Class II, that is, returns considered sufficient to induce continuity of production, and leave net revenue ranging from $238 - $410 per quarter, the estimated bushels of marketable wheat available for sale per parcel in this land class ranges from 796 to 999 bushels per quarter. Such land may be considered suitable for wheat production. Larger payments could be made for its use, than for the use of Class II parcels, without reducing the farmer's earnings below the level procurable from land in Class II.[6]

In dividing land into four classifications two additional factors which were considered should be noted: first, though marginal quarter sections were at times interspersed with submarginal land such would not permit a three quarter section farm unit to support through

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[6] Stewart and Porter, op. cit., 33-34.

taxation the customary level of community services; second, though some parcels of land are classified as submarginal they may contain small areas of quite fertile and productive soil. In such cases, these areas may be profitably used to raise grain providing the remaining area can be profitably used as pasture land.

Before considering this classification further, it should be noted that the Special Areas as now constituted comprise a much smaller area than that which was originally classified by Stewart and Porter, and because of this, generalizations made by them must be carefully considered when applying such to the present situation.

At the time the study was made, roughly 80 per cent was classified as submarginal, 14 per cent as marginal, 5 per cent as fair and only a very small amount as good land.[7] It is significant, that when this classification is applied to the Special Areas as now constituted, 80.93 per cent is submarginal, 14.04 per cent is marginal, 3.53 is fair land, and .61 per cent is good land. Lake area was not listed in the original report, but according to the Land Classification Map, about .89 per cent was covered with lakes.[8]

It is thus apparent that the dispersion of marginal and submarginal lands throughout the original area tended to be fairly uniform. In the Special Areas as now constituted both marginal and submarginal lands can be found in all areas. Such classes are, however,

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[7] Stewart and Porter, op. cit., 35.

[8] For detailed classification of land by townships as well as the 1951 population figures see Appendix C, Table XI, pages 212-222, and Figures 6, 7 and 8, pages 222a, 222b and 222c.

less numerous in the north and north west sections of the area.

For the most part the soils of the Special Areas are brown in color. There is, however, a small tract of dark brown soil present on the north west periphery of the area. Such soils indicate a higher fertility than the brown soils and also indicate heavier precipitation. The number of Class IV parcels of land increase throughout this dark brown soil area.

In determining the classification of land a great deal of attention was paid to soil types.[9] Approximately two thirds of the land consists of predominantly medium textured loams. Such soils include the 'blow-out' or solonized phase. The next largest classification is that of sandy soil. The heavier textured soils consist of clays and heavy loams and represent about one tenth of the whole area. Class I soils are mainly sands, solonized loams and loams. More than 87 per cent of the submarginal land contains soils of these types.[10]

Topography frequently makes otherwise good soil unsuitable for raising grain. Because of this Stewart and Porter gave careful consideration to topography in determining production.[11] In some cases land is untillable but is closely associated with very fertile land, and so the total association was considered in the classification.

Land in Class I contains the highest proportion of hilly and eroded lands. "Ninety-four per cent of the hilly and 98 per cent of

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[9] For details of locations of soil types see Soils Map, Appendix A, Figure 3, in the back pocket.

[10] Stewart and Porter, op. cit., 67.

[11] Ibid, 38.

the eroded parcels are classified as submarginal. Topography is increasingly favourable in the higher land classes."[12]

A large amount of the land that was classed as submarginal contained a high proportion of unbroken prairie. More than 70 per cent of the Class I land has never been broken. The percentage of unbroken land decreases with the higher land classes. Less than 8 per cent of the Class IV land was composed of unbroken prairie.[13]

As previously stated, the proportion of the various land classes has not been greatly affected by the changes in the size of the Special Areas. It is, therefore, reasonable to assume that the per cent of the various soil types within the various land classes will not have changed greatly either. In their classification Stewart and Porter give the following relationships between land class and soil types.

> Class I parcels (excluding waste) consist mainly of sands, solonized loams, and loams (87.8%); Class II of solonized loams, loams, and heavy loams (93.7%); Class III of loams and heavy loams (83.1%); and Class IV of heavy loams and clays in the brown zone (Acadia Valley) and loams and heavy loams in the dark brown zone (97.6%).[14]

The Stewart and Porter classification is largely based on wheat yields on land of the various classes for the period 1921 to 1936. The wheat yields used are in many cases not from recorded data but from the memory of farmers interviewed. In spite of this rather untrustworthy element the yields do compare fairly well with other

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[12] Ibid, 67.

[13] Ibid, 68.

[14] Ibid, 40.

figures compiled for the years 1925 to 1940. In making their study they found a close relationship between their land classes and yields in all areas. The significant feature of the wheat yields in the period studied was the relatively "low long-run level and the high degree of variation from year to year."[15]

Three conclusions were drawn from the study of wheat yields and land classes.

> (1) Producers located on the higher classes of land may expect to secure significantly higher long-run average yields.
>
> (2) Annual fluctuations in yields measured in bushels tend to be somewhat greater in the higher land classes.
>
> (3) Fluctuations in yields, expressed in proportion of the long-run average, are smaller in the higher than in the lower land classes.[16]

The study indicated that the soils in the dark brown zone produced an average yield of 11.3 bushels per acre, while that in the brown zone averaged 9.9 bushels per acre. The soil types also were found to affect yield. In both the brown and dark brown soils the medium to heavy textured soils gave the highest yields, followed by the medium textured soils. Very light soils gave the smallest yields. In the dark brown zone the difference between the average yields according to soil type was 4.1 bushels, while in the brown zone the difference was 2.0.[17]

When the various areas were considered it was found that the

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[15] Ibid, 41.

[16] Ibid, 49.

[17] For further details on average yields by soil types see Appendix C, Table IX, page 210.

Berry Creek area had the lowest average yield, 8.7 bushels per acre. The highest average yield was found to be in the Sounding Creek area. The average yield in this region was 11.6 bushels per acre, and it was followed closely by the Neutral Hills area with an average yield of 11.5 bushels per acre.[18]

In summary of their study of land use classification Stewart and Porter state that their classification may be expected to contribute to the solution of the following problems.

> (1) Movement of settlers from submarginal lands, and the redistribution of population within the area.
>
> (2) Adjustment of land use by defining areas suitable for grazing, and indicating locations in which restoration of grass cover is necessary.
>
> (3) Equalization of assessments.
>
> (4) Adjustment of land contracts to conform to the capacity of the land to pay.
>
> (5) Direction of future land use. Changing conditions of costs and prices would involve modification of any use classification; and it is to be expected that the present classification will require modification in the future. However, the classification will stand as a record of informed judgment regarding the relative productivity of lands within the area surveyed; and, even under more favourable conditions it may serve to check the tendency to the over-optimism and over-expansion which in earlier periods have sown the seeds of later distress and retreat.[19]

2. Present Applicability of the Stewart and Porter Land Classification Survey

The Stewart and Porter classification of land use is still recognized by the members of the Special Areas Board as a good guide

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[18] For further details on average yields by areas see Appendix C, Table X, page 211.

[19] Stewart and Porter, op. cit., 68.

as far as long term wheat production is concerned. They point out, however, that the average individual farm unit is now larger than the size of unit on which the classification was based. The increase in acreage is in large part the result of the addition of more grazing land to the farm unit.

The Class I or submarginal land was suitable according to these authorities only for grazing, while the Class II or marginal land was suitable for a combination of wheat production and grazing. Since a large part of these lands was once cultivated for wheat production, it is to be expected that the largest decreases in population would occur in those townships which contain large acreages of such land. By comparing land classification per township and population, this trend can be readily seen.[20]

In considering the implications of the emigration from farm lands in the Special Areas the effect of rainfall, wheat prices and grain yield changes must be considered. In this respect all three have been higher on the average for the period since the classification was made than they were for the period 1921-36 on which the study was based. The average annual precipitation for representative weather stations in the area from 1921 to 1936 was approximately 12.07 inches, while from 1937 to 1955 it was approximately 14.07 inches. The average net price of No.2 Northern wheat at the representative shipping point of Hanna for the period 1921 to 1936 was 92 cents per bushel, while for the period 1937 to 1955 it was approximately $1.20 per bushel. The average yield

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[20] For more complete details on population and soil classification see Appendix C, Table XI, pages 212-222, and Figures 6, 7 and 8, pages 222a, 222b and 222c.

of wheat as determined by Stewart and Porter was 10.4 bushels per acre for the then constituted area. The average yield for the period 1937 to 1955 was 11.3 bushels per acre.

Though these three factors have increased farm revenue obtained from the various cultivated land classes, it must be borne in mind that living costs and costs of operating have increased. The increased costs of farm operating have been to a certain extent offset by the use of fewer and more efficient machines which accomplish the same result with fewer operations. Farmers have also come to the realization that grain yields are frequently lowered by over working the soil. The costs of operating, upkeep and replacement of these larger machines are higher than they were for machines purchased in the 1930's. The cost per acre attributable to the cost of farm machinery depends largely on the number of acres on which it is used. Farms which have a large amount of land under cultivation have, therefore, been able to reduce the total costs per acre in relation to the total receipts attributable to the use of such machines. A wider spread knowledge that fall cultivation tends to decrease rather than increase grain yields, better timing of operations and more efficient machines have all helped to offset other increasing farm operating costs. If the three quarter section farm of marginal or Class I land is considered in the light of these changes it may be surmised that a small profit might be realized.

The Class II land listed by Stewart and Porter was marginal when a three quarter section was considered a farm unit. If the farm unit contained more than three quarter sections of land it was recognized that with proper management such land could be expected to return a profit to the operator. At the time of the survey there

were many farms of the three quarter size or less. Today the average size of farm unit has increased. The total average acreage per farm in 1951 was 1,727. Of this amount approximately 454 acres were cultivated and 1,268 were used for grazing. Besides the increased size of the farm unit the farmers also have had access to the use of community pastures. It may, therefore, be assumed that some of the land which was previously classed as submarginal may at the present time be marginal while some of the marginal may be able to produce a fair profit.

It should not be overlooked that a large part of the increase in size of farm unit has been due to the increase in grazing land and not in land used for cultivation. It would, therefore, appear that the Stewart and Porter land classification as far as wheat production on a three quarter section farm unit is concerned, is still a useful and fairly accurate guide. From the standpoint of the much larger farm unit producing both wheat and livestock in considerable amounts or from the standpoint of larger farm units producing only livestock, the land classification has little applicability today.

The study, besides providing many of the important details on the productivity of land in the Special Areas, has also provided the basis for establishing the minimum size of farm unit that is necessary for economic efficiency. Although farming conditions have changed since the time the report was made, and the necessary size of farm has increased, there are many farms which contain less than three quarter sections. In a later section under 'size' the 1951 census figures reveal that at least 16 per cent and possibly 22 per cent would be classed as marginal when judged by the size of farm which the Stewart and Porter report says is necessary in this region.

CHAPTER VIII

CLASSIFICATION OF LAND ACCORDING TO PRESENT USE

The Special Areas as now constituted contain 5,029,868 acres of land, exclusive of road allowances. On December 31, 1955, 1,522,155 acres (or 30.25 per cent) were held by individuals and companies under right of title. This patented land is all subject to taxation. It includes a few parcels of land which have been vacant for many years but on which the taxes have been regularly paid. The remaining area is held by the Provincial Government either as crown lands or as public lands. Crown lands are those upon which title has never been issued, while public lands are those which have been reclaimed by the Provincial Government through the provisions of The Tax Recovery Act. In most cases all land held by the government is commonly referred to as public land. The terminology would only become significant if the Special Areas were once again administered by a local selfgoverning body. In such case public lands would revert to the control of such a body, but the crown lands would be retained by the government.[1]

There is a total of 415,053 acres under cultivation lease,

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[1] Acreage Classification in the Special Areas, Annual Report, Advisory Committee Meeting at Hanna, January, 1956, Appendix. (mimeographed) Both crown land and tax recovery land are commonly listed as public land in most references. The term public land will, therefore, be used in all further description and references even though the two types are present.

cultivation permit or irrigation lease. The total under cultivation lease in 1955 was 385,329 acres, while that held by cultivation permits amounted to 27,303 acres. Though these lands are held by cultivation leases or permits the land is not necessarily all under cultivation. The remaining 2,421 acres are held under irrigation lease agreement.

Grazing leases have been taken out covering 2,673,541 acres. Grazing permits have been issued for 87,988 acres. This would make a total of 2,761,529 acres under grazing leases or permits. There are four community pastures covering an area of 171,781 acres. The total acreage used for pasturage other than patented lands is thus 2,933,310 acres.

A considerable amount of land has not yet been classified. The total acreage of such land is 159,390 acres. It may be assumed that a large part of this land is unused road allowances, lakes, the Red Deer river and waste land such as the Badlands at Steveville.

The soil classification map shows approximately 45,600 acres of land as being occupied by lakes.[2] Since the area was mostly mapped during the dry years it is reasonable to expect this is a conservative figure. The Red Deer river follows a meandering course just inside the borders of a large part of the Special Areas. The total length of the river bed is about 167 miles. The river channel is over 75 yards wide[3], so at least another 4,500 acres are included in this. The Steveville Badlands are from one to four miles wide and extend for

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[2] Calculated from the Land Classification Map, Appendix C, Figure 5, in the back pocket.

[3] F. A. Wyatt, J. D. Newton, W. E. Bowser and W. Odynsky, Soil Survey of Rosebud and Banff Sheets, University of Alberta, Bulletin No.40, (Edmonton, 1943), 17.

about twelve miles. Taking two miles as the average width another 15,360 acres become accounted for. In nearly all townships a considerable area of this deeply eroded river valley is unsuitable for cultivation or for grazing. A rough estimate of the remaining unsuitable agricultural area in this river valley accounts for an additional 20,572 acres.

So far as can be ascertained from available records the acreage involved in townsites and in railway right-of-way is not included in the acreage termed as patented lands, and is thus presumably included in the unclassified figures. There are at least sixty-five places where railway sidings and townsites were originally planned. A conservative estimate of this townsite acreage is 6,700 acres. Total railway right-of-way covers about 6,000 acres.[4] This figure includes right-of-way on which railway grades were never built.

The total acreage not clearly classified by the government amounted to 159,390 acres. The acreage accounted for in the above calculations amounted to 99,732 acres. The remaining 59,658 acres cannot be easily accounted for. A large part of it may be due to the accounting system which places all expired leases under the classification of vacant even though they may later be re-leased. Any such expired leases which were vacant on December 31, 1951, would therefore be included in the 59,658 figure. It is also possible that some of

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[4] Estimated on basis of 432 miles of railway shown on Land Classification Map, Appendix C, Figure 5 (in back pocket), plus 72 miles of right-of-way on which grades were never built. Right-of-way calculated as 99 feet wide and the 65 sidings as 100 feet wide and 1,320 feet long.

it may be contained in numerous other small parcels of land wholly unsuitable for agricultural use. Any remainder might be the result of using too conservative estimates in calculating the above figures.[5]

The figures given in this chapter indicate the various reasons why any analysis of land use in the Special Areas using the Provincial Government figures would tend to be very incomplete and filled with inaccuracies. The inaccuracies are caused by a lack of a detailed breakdown in some of the government figures on land classification. This classification does, however, provide figures which are not found in the census data used later in this study. It is particularly valuable in that it gives the amount of land in community pastures.

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[5] For more complete breakdown of present land use see Appendix C, Table XII, page 223.

CHAPTER IX

NUMBER AND SIZE OF FARMS

1. Population[1]

In 1951 the Special Areas as now constituted had a population of approximately 12,506 people.[2] Of this total 4,076 were living in organized towns, the remaining 8,430 were classed as rural population. Some of this latter group live in unorganized towns or, if living in rural areas, are not a part of a farm operator's family. The actual farm population amounted to approximately 7,318 people. Since there are 2,548 farm operators the average farm family is less than three.[3] The apparent small size of the average farm family is due to the comparatively high percentage of farm operators that are not married.

Although statistical data on the location of the individual operators have not been compiled, the figures given by census subdivisions indicate that approximately two thirds of the operators live in the northern half of the Special Areas. The southern sections of the region are on the whole more suited to livestock than to grain

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[1] Dominion Bureau of Statistics, Ninth Census of Canada, 1951, Volume VI, Agriculture, Parts 1 and 2, passim, with adjustments for those areas which cannot be obtained directly from census figures. For complete details see Appendix A, Tables VI and VIII, pages 162-172 and 174.

[2] For full particulars on rural population see Appendix A, Table VI, pages 162-172.

[3] For detailed information on farm population and farm operators see Appendix C, Table XIII, page 225.

production, and therefore constitute a high proportion of the grazing area.

2. Farm Operators[4]

Farm operators may be classed as owners, managers, tenants, or part owners and part tenants. Although approximately 30 per cent of the land is held by farmers under right of ownership, less than 16 per cent of the farmers operate solely on land which they own.

There are few farm managers in the Special Areas. Eight of the 12 so classed operators are located in the Berry Creek region. Some of these managers are known to be supervising enterprises which are mostly ranching rather than farming. Since ranching lends itself better than farming to this type of management it is likely that the majority of managers are operating livestock enterprises.

Approximately 24 per cent of the operators in the Special Areas own no land and may therefore be classed as tenants. For the most part the land which they operate is held under government lease agreement.

The largest group of operators are those who are part owners and part tenants. They comprise over 60 per cent of all farm operators. There has been a definite endeavour on the part of owners to retain the ownership of the quarter or half section of land on which their

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[4] Dominion Bureau of Statistics, Ninth Census of Canada, 1951, Volume VI, Agriculture, Part 2, Table 29, 1-5, with adjustments for those areas which cannot be obtained directly from census figures. For full particulars on farm operators see Appendix C, Table XIII, page 225.

dwellings are located. This would seem to indicate the desire for ownership is still cherished by the majority of the farmers, even though the cost of holding a government lease tends to make farm operating costs less than when full ownership is enjoyed.

3. Size of Farm

According to the 1951 census and other calculated figures there are approximately 4,400,822 acres of operated farm lands in the Special Areas.[5] The Alberta Government figures for all patented, lease and permit acreages for the same area in December, 1955, exceeded this acreage by 297,875 acres.[6] A part of this increase can be attributed to the leasing of lands which were previously classed as vacant. Moreover some leases would have expired at the time the census was taken so that the figures shown by the Dominion Bureau of Statistics may be less than the normal average acreage of farm land. It must also be recognized that certain patented and miscellaneous lease acreages are included in the Provincial Government figures but not in agricultural census data.

To obtain an overall picture of land use the average farm rather than the individual farms must be considered, even though such is entirely hypothetical, since it assumes that all land, livestock, machinery and other resources are equally distributed among the existing farms. Because of the range of existing conditions within the Special

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[5] For further details see Appendix C, Table XIV, page 226.

[6] For further details see Appendix C, Table XII, page 223.

Areas it appears that the average size of farm obtained by census subdivision may give a more accurate description than the average for the whole area.[7]

Even though the average farm contains 1,727 acres of farm land, the averages obtained by the smaller census subdivisions within the area vary from 630 acres in the small area just east of Sullivan lake to 4,269 in the large area in the south western part of the area.[8] If these two extremes were taken out the overall average would be decreased well over 100 acres.

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[7] To obtain complete accuracy on land use would require a lengthy and costly survey of all farms in the area. Even, then, in order to give a generalized description of land use, many averages would still have to be used. Such a survey is beyond the scope of this study.

The 1951 census figures are not broken down in such a manner that they are available for all parts of the presently constituted Special Areas. Separate census figures are not available for the relatively small area south of the Red Deer river. The figures for farm operators and land area in this region have been obtained from several sources, all other figures are calculated on the basis of averages for the whole area. The other adjustment that had to be made affects the accuracy of census figures for several subdivisions. These inaccuracies are due to the changes which have taken place in the northern boundaries since the 1951 census. In this study the areas which have been deleted are lumped together and subtracted. The estimates in this case are based on Census Subdivision 305 in Division 5 rather than on the averages for the whole area. The number of farms added and subtracted by the above calculations makes only a final addition of 37 farms. This is not likely, therefore, to greatly affect the accuracy of the average farm figures. Although the average figures for the whole area or for the various census subdivisions do not give a completely accurate picture of land use they do provide the most accurate complete details available, and when combined with other known facts provide the best sources of facts and figures in a study of land use.

[8] For complete details on number of farms according to size see Appendix C, Table XV, page 227.

There is quite a range in the actual sizes of farms within the region. At the two extremes there are two farms containing less than 10 acres and 336 farms containing over 2,880 acres. There are 137 farms containing less than 240 acres. Such small farms can only be economically feasible in this area if they specialize in such enterprises as poultry raising, livestock fattening, or market gardening. Even if such farmers should so specialize it is doubtful that the enterprise would be profitable. Because of feed shortages and distance to market this is not a good livestock fattening region. The average moisture conditions and lack of markets do not permit much development in the way of market gardening. Poultry raising has some possibilities and there are a few fairly large flocks kept. In the main, therefore, it may be assumed that these farms are not economic units which justify the full time occupation of the operator. It is likely that many of them belong to people who are near retirement age or are employed part time in some other occupation.

Two hundred and seventy-eight farms contain from 240 to 399 acres, 230 farms from 400 to 559 acres and 248 from 560 to 759 acres. In their study in the late 1930's Stewart and Porter came to the general conclusion that at least 480 acres were necessary for an economic farm unit in the Special Areas.[9] Although they would have recognized exceptions to this minimum acreage this acreage was generally given as a basic minimum. In determining the minimum size of an economic farm

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[9] A. Stewart and W. D. Porter, Land Use Classification in the Special Areas of Alberta and in Rosenheim and Acadia Valley, Dominion of Canada, Department of Agriculture, Publication No.731, Technical Bulletin No.39, (Ottawa, 1942), 33.

unit in this area one must take into consideration the amount of farm produce that can be grown and the long-term relationships of farm prices and costs. The Darcovich study of the Special Areas indicates that farms under 1,522 acres in size are probably marginal or submarginal under long term conditions.[10] In this case 73 per cent of the land was found to be leased pasture land. While this calculation on farm size may appear to be exceptionally high it does indicate that the necessary size of an economic farm unit in this region has increased since the time of the Stewart and Porter study. It also indicates that the largest part of the necessary increase has been in grazing rather than in cultivated land.

The Stewart and Porter study indicated that 107 acres of the 480 acres farmed would be in pasture and hay. Such an acreage could not be expected to maintain more than three or four head of cattle even under better than average precipitation conditions.[11] This would not allow for any other adult animals being grazed on the pasture land. In order to allow for a sufficient expansion to maintain even a small cattle herd it appears likely that at least 300 acres of additional grazing land would be necessary. Therefore, on those farms where there has been a trend towards increasing cattle production since the Stewart and Porter study was made, it appears that an increase of 300 acres or a total of 780 acres would be necessary.

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[10] W. Darcovich, Appraisal of Dryland Farming in the Special Areas of Alberta, Dominion Department of Agriculture, Economics Division, (Ottawa, 1954), 10.

[11] Stewart and Porter, *op. cit.*, 71.

On those farms where there has been no increase in cattle production, the ability to increase the amount of land under cultivation to help meet steadily increasing farm costs has been in most cases limited due to legislative and administrative controls. It is not likely, therefore, that grain farms containing three or four quarter sections have been able to expand sufficiently to be now classed as above marginal in the long-run.

Though the Stewart and Porter study and the Darcovich study of the Special Areas are not entirely comparable, they do indicate a vast difference in the necessary size of an economic farm unit in the 1930's and one in the 1950's. Such a comparison indicates that the size of the marginal farm is probably considerably above what Stewart and Porter indicated, however, it may not be so large as that suggested by Darcovich.

The general opinion of farmers and Board members interviewed during the course of this study was that farms of 640 acres or less were for the most part marginal or submarginal except in those years when high yields and good farm prices prevail. In most cases these people thought that the best size of farm unit was one which contained at least one section of farm land and one section of grazing land. Although such statements are very general in their scope they do appear to further substantiate the conclusion that farms with fewer than 640 acres and probably up to the 759 acre size as given in the census figures, do not foster prosperous farmers. If the latter figure is used, then over 35 per cent of the farms are too small to be profitable for the full time occupation of an operator who wishes to have a reasonable standard of living and return for his labours. As previously

pointed out some of these farms would be justifiable for part time operators, for farmers near retirement age who wish to remain on farms or for some operators who specialize in certain enterprises.

There are 418 farmers whose farms contain from 760 to 1,119 acres, 406 from 1,120 to 1,599 acres and 323 from 1,600 to 2,239 acres. This core of 1,249 farms makes up practically 49 per cent of the total number in the area. This large group of farms containing from more than one section to greater than two sections would appear to further strengthen the previous observations on the size of the economic unit.

The remaining 20 per cent of the farms are unequally divided into two range groups. One hundred and seventy-one farms contain from 2,240 acres to 2,879 acres, while 336 farms are over 2,880 acres. One hundred and twenty-five of these farms are situated in the south western part of the Special Areas.[12]

In considering the possible economic value of any size of farm in the Special Areas there is at least one area which cannot justifiably be judged in the same manner as the rest of the region. This area roughly corresponds to the northern fringe area which belongs to the dark brown soil region. The only census subdivision located entirely within this region is the small one containing less than two townships directly east of Sullivan lake. In this subdivision there are 42 farmers. Only 5 farms contain more than 1,120 acres. Thirty-two farms contain between 240 and 559 acres. The average farm in this region contains 335 acres of improved and 295 acres of unimproved land. This

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[12] For further details see Appendix C, Table XV, page 227.

area has the highest per cent of land owners. The average total value per farm is only slightly exceeded in two cases, when compared with farms in other census subdivisions. The average values of farm and buildings, machinery and livestock all compare favourably with other regions. This would seem to indicate that the minimum size of farm required in this region to make an economically profitable unit, is much smaller than in the rest of the area. It must be pointed out, however, that this region is comparatively small and has little effect on the average figures for the whole area.

It has been determined that there were approximately 7,318 people living on farms in 1951, and of this total 2,548 were classed as farm operators. The average size of farm was found to contain 1,727 acres. Although 20 per cent of the land is privately owned only 16 per cent of the farmers own all of the land which they operate. It was calculated that 24 per cent of the operators owned no land. The analysis of farm size indicates that possibly 35 per cent of the farms are smaller in size than is feasible for an economic unit in the Special Areas. It must be pointed out, however, that at least 16 per cent and perhaps 22 per cent of such farms would be classed as too small according to the Stewart and Porter report. The number of farms considered marginal or submarginal in this report is not, therefore, increased as greatly as might be at first thought. The increase in size of farm necessary since the time of the Stewart and Porter report is largely attributable to the higher standards of living thought desirable and to a change from wheat production alone to a more diversified wheat and cattle production. Since 40 or 50 acres are

required to maintain one mature cow, a substantial increase in size is necessary to accomplish this. It is generally recognized by the Special Areas authorities that such diversification is necessary for farm stability.

CHAPTER X

UNIMPROVED LAND

1. Use of Unimproved Land

Although the average farm in the Special Areas contains 1,273 acres of unimproved land, the averages for the various census subdivisions vary from 295 to 1,703 acres.[1] The three subdivisions which are located in the south central, south and south west portions of the region are the only areas having more than the average acreage of such land. The smallest acreage is located east of Sullivan lake.

Though the region as a whole has been spoken of by numerous authorities as a treeless plain there is a small area in each census subdivision which is classed under unimproved land as woodland. In the southern part of the region such land is either along the Red Deer River valley or along small water courses. In the north central portion of the area over eleven acres of such land occur on the average farm. During the last four or five years of generally wetter conditions an increasingly greater number of seedlings and small trees can be observed. Though this land is classed as woodland in census data, much of it in the Special Areas could be better classified as brushland. It is of interest only from the standpoint that such land does not produce much grass for grazing purposes.

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[1] For further details see Appendix C, Table XVI, page 228.

Over 99 per cent of the unimproved farm land may be considered as grazing area. It is for the most part held under grazing lease agreement with the Provincial Government. A small amount is held on a yearly basis by means of grazing permits.

2. Grazing Carrying Capacity

There are 3,231,467 acres of unimproved land suitable for grazing in the Special Areas. The grazing carrying capacity for land in the Special Areas was established in 1945 at two different rates. The largest part of the area covering all of the central and southern sections was established at 50 acres per cow, while the northern part was set at 40 acres per cow. Five sheep are considered equivalent to one cow. No additional acres are considered necessary for cattle and horses under six months of age.[2] It is of interest to note that though these rates are comparable to those in the surrounding areas all the rates were established largely on the higher margins of what was thought necessary by the Dominion Range Experiment Station at Manyberries, Alberta, and the Experimental Station at Swift Current, Saskatchewan.[3] The established grazing rates would allow the average farmer in the Special Areas to maintain 27 head of cattle on the unimproved land or 29 head if all grazing land is considered.

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[2] Personal information received from the Government of Alberta, Department of Municipal Affairs, Edmonton. For accurate details of the regions having the two grazing carrying capacities see Land Classification Map, Appendix C, Figure 5, in back pocket.

[3] S. E. Clarke, E. W. Tisdale and N. A. Skoglund, The Effects of Climate and Grazing Practices on Short-Grass Prairie Vegetation in Southern Alberta and Southwestern Saskatchewan, Dominion Department of Agriculture, Publication No.747, Technical Bulletin No.46, (Ottawa, 1947), 28-44. Also personal information from the Government of Alberta, Department of Lands and Forests, Edmonton.

According to the 1951 census and other estimated livestock figures there were 92,039 head of cattle, 13,540 head of horses and 13,803 head of sheep in the Special Areas in that year.[4] On a comparative basis with the figures given for census division 5, these totals may be broken down to include 27,382 calves, 1,512 colts and 4,267 lambs. It is of interest to note that the lamb crop in 1951 was smaller than might normally be expected.[5] If the above young stock are disregarded there are 64,657 cattle, 12,028 horses and 9,554 sheep which are maintained on grazing land. Since a sheep is considered to require only one fifth of that required by one cow, and since horses are looked upon as requiring the same as cattle, the total number of animals to be sustained in terms of cattle is 78,596 head.

There is approximately 22 per cent of the land area which is rated as requiring 40 acres to provide sufficient grass to sustain one cow. In such calculations allowance is made for extremely dry years and for some fall carryover. This area is located in the northern part of the region and is contained nearly entirely within two subdivisions. In the one case the whole subdivision comes under the 40 acre per head rate, while in the other case only half of the subdivision area is involved. This area comprises approximately 706,788 acres and would, therefore, sustain about 17,670 head of cattle.

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[4] For further details see Appendix C, Tables XXVII and XXXII, pages 249 and 254 respectively.

[5] Calculated from 1951 census figures for Division 5. See Dominion Bureau of Statistics, Ninth Census of Canada, Agriculture, Volume VI, 1951, Part 2, (Ottawa, 1953), 21-2. The small lamb crop may be due to faulty calculation of the numbers of wethers included in the total.

The grazing carrying capacity on the remaining 253,679 acres of unimproved land is 50 acres per head.[6] At this rate of utilization the above land would sustain 50,756 head of cattle.

In order to find the total carrying capacity of all grazing land the 64,951 acres that are improved pasture land and the 171,781 acres of community pastures must also be added.[7] If the former is estimated at 40 acres per head and the latter at 50 acres per head, another 6,059 cattle could be sustained making a total of 74,485 cattle that could be sustained without undue damage to grass cover even under relatively dry conditions.

This calculation indicates that there were 4,111 more cattle being sustained than the established grazing rate warranted. This overstocking was further aggravated by the uneven distribution of cattle in many areas. At the same time it appears that the administrative authorities were and still are tending to encourage farmers to increase their cattle herds.[8] It must also be recognized, however, that the set carrying capacity was made high enough to take care of a certain amount of overstocking and uneven distribution of livestock.

Although the grazing land was apparently carrying more livestock than the established carrying capacity of the land warranted in 1951, the number of serious over grazing cases was not considered great by

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[6] For details on area covered by either of the two grazing carrying capacities see Land Classification Map, Appendix C, Figure 5, in back pocket.

[7] For details see Appendix C, Table XII, page 223, and Table XVII, page 229.

[8] Opinions expressed by a number of farmers and officials interviewed.

the Special Areas Board. At the same time the majority of the cattle came off the range in good shape and left a good carryover of grass in most areas. Although there was some damage to grass cover due to over grazing the number of such cases was not large. One must, therefore, come to the conclusion that the actual carrying capacity in 1951, even allowing for a substantial carryover, was greater than the recognized carrying capacity.

The carrying capacity rates were established as stated previously on the basis of research done at Manyberries and Swift Current. The authors of the booklet which records the results of these studies "The Effects of Climate and Grazing Practices on Short-Grass Prairie Vegetation in Southern Alberta and Southwestern Saskatchewan" found that "the average carryover of forage on the fields grazed at 40 and 30 acres per head was adequate, being nearly 35 per cent for the latter pasture and somewhat higher for the former".[9] Although there was found to be a decrease in Blue grama grass the total productivity declined only slightly. The experiments took place from 1932 to 1937 and so included some of the worst known drouth years. It must, therefore, be concluded that the grazing carrying capacity figures were raised high enough to make certain that neither the grass cover nor the livestock would suffer even though more severe drouth years were to occur. The average precipitation from 1928 to 1939 was 10.72 inches in the regions where the experiments were carried out. In the driest

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[9] Clarke, Tisdale and Skoglund, op. cit., 32.

year there was a precipitation of 7.19 inches. In only one year of the period were there 13 inches of rain.[10] It is unlikely that more severe conditions than these will be experienced for any similar period of time.

In the light of these studies it seems reasonable to assume that the area could be rated at 30 acres per head where there is now a 40 acre rate and 40 acres per head where there is a 50 acre rate, in all but a dry series of years and providing cattle could be evenly dispersed. If cattle could be so distributed the area would support at this rate 92,606 animals, an increase of 8,121 head over the 1951 figures. Because it is impossible to have an entirely even distribution of cattle within a specific area the higher figures for grazing carrying capacity are unwarranted.

It would require at least one inspection of each grazing area per year to determine the amount of over grazing. The studies carried out by Clarke, Tisdale and Skoglund indicate that while moderate grazing intensified to some extent the unfavourable effects of drouth, it appeared of less importance than climate in modifying plant cover. On the heavily grazed areas, however, the influence of grazing was as great or greater than climatic conditions. The principal species of grass were found able to endure recurring drouth periods but none were able to endure continuous close grazing for many years.[11]

At the present time there is a fairly good stand of the three principal grasses in most of the regions visited in gathering

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[10] Ibid, 20.

[11] Ibid, 41.

information. The over grazed land is easily noticeable from road allowances because of the absence of grass carryover from the previous fall. On close inspection it was frequently found that June grass and Sandberg's blue grass compose a much larger part of the ground cover than was found on more moderately grazed prairie. This though not serious in itself reflects a decrease in the three principal grasses which normally supply nearly 75 per cent of the total forage produced under normal conditions.[12]

The most common cases of over grazing occur in the vicinity of watering places and close to farmsteads. The former will be discussed later when considering the effects of water supply on grazing. There is not too much that can be done about the over grazing close to farmsteads. Cows kept for milk purposes and saddle horses necessarily are kept close to farm buildings. In the spring the operator likes to have calving taking place where he can provide assistance if necessary. In the late fall cattle tend to seek the protection offered by the farmstead. The most that can be done is to encourage some system of fencing in such areas so that some rotational grazing can take place. Though such fencing is disliked by most stockmen, it should be possible to convince most operators of the deterioration of the heavy forage producing grass species in the vicinity of most farmsteads.

In spite of the relatively wet conditions of the last five or six years a few leases appear to have been grazed to such an extent that less than a 25 per cent carryover of forage has resulted, while in

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[12] Ibid, 17.

other cases there has been as much as a 50 per cent or more carryover. This would appear to warrant closer supervision by Special Areas officials.[13]

The overall picture of grazing conditions is that the maintenance of grass cover is generally good. While there are a few cases of apparent over grazing of fairly large areas, the most common over grazing occurs in small areas close to water holes and farmsteads. In a number of areas the carryover of grass appears to have been greater than necessary for several years. The general conclusion is, therefore, that more supervision is necessary in the distribution of cattle throughout the grazing areas. In a report to the Advisory Committee meeting in January, 1956, one of the Board members reported "I think you will all agree with me that the forage value of your leases has increased the past few years, due to above normal rainfall, where before you could only pasture one animal on 50 acres, you can now pasture at least three and also obtain winter feed." [14]

Though the above statement is looked upon as a slight exaggeration of grass conditions, it indicates that stocking over the recognized carrying capacity should be possible providing there is good range management and that drouth conditions do not occur. If or when drouth conditions do reoccur the tendency to over graze could be serious if effective range management is not maintained.

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[13] Personal observations during a tour through the Special Areas, June, 1956.

[14] Department of Municipal Affairs, Advisory Committee Meeting Report, January, 1956, 35.

3. Grazing Rentals and Forage Values

The rental for grazing leases on public lands is based on the price of cattle and the carrying capacity of the land, and is expressed by means of a formula. This formula was established as a result of the investigations of a committee comprising representatives from the Department of Lands and Forests and from the Western Stock Growers Association. The original formula was as follows:

$10\% \times \frac{250}{GC} \times P$ = rental and taxes per acre.

10% = share of total forage value retained by Government as taxes and rental.

250 = annual gain in pounds of beef on grass. This is a conservative figure derived from experiments in Alberta and Montana.

P = average price of all grades of cattle except feed calves sold on the Calgary stock market from July to December inclusive for the previous year.

GC = grazing capacity, the number of acres required to graze one mature beef animal on a 12 month basis.[15]

The above formula was applied to all grazing leases and grazing permits in 1945. At the same time four different grazing capacities were established for the province by the committee. The purpose was to establish uniform rental charges according to the carrying capacity of grazing land and to have the rental fluctuate with the price of cattle.

Forage value of grass is based on the requirements of a mature 1000 pound cow. The requirements for such an animal are taken to be

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[15] V. A. Wood, Alberta's Public Land Policy, Past and Present, Journal of Farm Economics, Volume 33, No.4, Part 2, (November, 1951), 744-45.

660 pounds of air dry forage per month. The carrying capacity is therefore determined by the amount of air dry grass normally produced divided by the requirements for such an animal over a twelve month period. In a series of comparatively wet years the amount of forage produced is greatly increased providing that a large amount of the precipitation occurs during May and June.

The Dominion Experiment Station at Manyberries reports that during 1954, 506 pounds of forage were produced by a seasonal precipitation of 7.94 inches, 6.45 inches of which occurred during May and June. For the period 1943 to 1949 the average forage production was 203 pounds. The average for the 1950 - 1955 period was 452 pounds per acre. In the latter six year period there was both greater annual and greater seasonal precipitation.[16] The larger amount of forage produced in recent years would seem to make increased grazing possible as long as relatively heavy precipitation occurs. However, this increased grazing could be expected to create problems in years of normal or subnormal precipitation.

> Though forage production of the range has increased over the past few years owing to above average precipitation, the carrying capacity has remained constant. As forage yield varies from year to year, our long-term recommendations provide sufficient carryover of vegetation from year to year to maintain sustained production.[16]

Though the original forage value in the formula was established at 10 per cent, the Special Areas rate was placed at 8 per cent, even though there were bordering areas on which the grass cover situation was nearly identical. In 1952 the rate for the rest of the province

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[16] S. Smoliak, Junior Agrostologist, Manyberries Experiment Station, personal communication, August, 1956.

was raised to 12½ per cent. The Special Areas for some unexplainable reason were left at 8 per cent. In the first case of rate setting there may have been some justification for the lower rate in the Special Areas, however, even then the special rate should have included all of the south eastern part of the province on which the grass cover and forage value were approximately the same. The spread between the forage value used in the formula for the Special Areas and that now used for the rest of the province is entirely unjustified. This situation perhaps more than anything else has made farmers and ranchers outside the Special Areas feel that this region is given unwarranted concessions by the government. The feeling is expressed that the Special Areas grazing lease holders contribute comparatively less and at the same time receive indirect assistance through the provision that the Board may retain the grazing fees collected from crown (unalienated) lands and also enjoy equal services provided by the government.

At the present time this situation has become complicated with the deletion of certain small fringe areas and the Bow West area from the Special Areas. In spite of these regions having been taken into various municipalities the forage value previously established under the Special Areas has been maintained. Farm operators in these municipalities cannot see any justification for two adjoining leases with the same stand of grass to have vastly different grazing rentals. It is unfortunate that this disparity has been allowed to take place. There does not appear to be any justification for its continuance.

The rental fees on grazing leases and permits have fluctuated greatly since 1945. On the land having a carrying capacity of 50 acres per cow the rate in 1945 was 3½ cents per acre. In 1951 this had gradually risen to 9¾ cents and in 1952 it reached a peak of 11¾ cents. Since that time it gradually decreased to 5½ cents in 1955. The present rate is 5¾ cents per acre. The charge for grazing land where the rate was 40 acres per cow was 5 cents per acre in 1945. This gradually increased to 12 cents by 1951. The following year the charge was 11¾ cents. After this time the fees dropped each year until they were at a low of 7 cents in 1955. At the present time the charge is 7¼ cents per acre.

At the time when the highest grazing lease charge was being paid, the adjoining areas which had a rated carrying capacity of 50 acres per cow were paying 12 cents per acre, while those rated at 40 acres per cow were charged 15¼ cents per acre. At the present time such lands are paying 9 cents and 11¼ cents respectively.[17]

4. The Effect of Water Supply on Grazing

One of the great handicaps of the grazing land in the Special Areas has been the shortage of well distributed watering places for livestock. Clarke, Tisdale and Skoglund found that when the distance between watering places exceeded four miles there was over grazing of

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[17] Personal information obtained from the Government of Alberta, Department of Lands and Forests, Edmonton.

the land adjacent to the water and under grazing of the more distant range land.

During the hot dry weather the area closest to the water places suffered the most. This tended to be offset, however, by more distant grazing during the cooler periods. It was also found that where the four mile radius was exceeded, cattle failed to make normal gains in weight.[18] Although the shortage of watering places is still a serious handicap in making full use of the grazing areas, the situation has been alleviated to some extent by the increase in precipitation during the last few years. This has meant that more sloughs and lakes and small ravines have had water in them throughout the grazing season.

The projects and assistance carried out by the Prairie Farm Rehabilitation Act have greatly helped in providing water for livestock. The last figures recorded in P.F.R.A. reports list 679 dugouts, 358 stockwatering dams, 41 community stockwatering and irrigation projects plus 146 individual irrigation projects as having been completed. Besides this several larger dams and facilities for the irrigating of larger areas have been developed.[19] Though the value of such developments is difficult to determine as far as increased value of livestock and improved use of grazing land is concerned, the overall effect must have been quite significant. Practically every township has one small development of water supply. In some cases there are eight or ten in a township. The average would be about four.

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[18] Clarke, Tisdale and Skoglund, op. cit., 49-50.

[19] Personal communication from L. E. Helmer, Agricultural Supervisor, Hanna, Alberta, May, 1956.

Even after allowing for the development done either by the P.F.R.A. or through assistance supplied by the Act the number of watering places is still very inadequate. Though most farms have a well or other close water supply, the watering places on the larger ranges are for the most part a long way apart. In some cases it is possible to go for fifteen miles and never see an indication of water.

There are several means by which watering places could be increased. The first of these is through further developments by the P.F.R.A. or through further assistance from them in the digging of dugouts and construction of earth-fill dams. This form of assistance while being good has perhaps tended to make the farmer so reliant on assistance that he has little liking for building such storage places on his own, even though the work involved in many cases would not be great. A part of the hesitancy on the part of the operator to so improve his grazing land may be caused by the fact that he owns little or none of it. This appears to be a common attitude taken by the majority of farmers who lease land whether it is for a year or twenty years.

The second means of increasing stockwatering facilities is for the operator to go over his lease land carefully and determine where possible small traps for water storage could be developed. In doing this the views of a person who has irrigated land would be of valuable assistance. There are many places within the Special Areas where by making a few small ditches, such as made in irrigated fields, spring run off water could be guided to small storage basins. In some such

cases a small dam might be necessary, in others it would not. Even where such small dams have to be made this can frequently be done in a few days with a farm tractor and such small earth movers as are commonly found on irrigated farms. The difficulty of the individual operator is to obtain such a machine for the few days for which he would require it. This would, therefore, seem to be the responsibility of the Special Areas Board. A small hydraulic earth mover suitable for using behind the larger size farm tractors could be purchased for a relatively small outlay by the Special Areas Board. It could be rented out to such people as are interested in improving their leases. Replacement and upkeep would have to be covered by rental charges. In a similar manner one or two small irrigation field ditching machines should be owned and rented out by the Special Areas Board. In this case, however, charges for the use of them should be higher if the operator is renting such for irrigation purposes. This would tend to encourage such operators to purchase one of their own since it is a farm necessity where irrigation is being carried out. These small ditching machines would provide a means for the farmer to direct the flow of much of the spring run off water into small deep depressions or to where small dams have been placed across ravines.

Although the P.F.R.A. are in most cases willing to give assistance in such storage problems the projects here spoken of would be frequently too small to warrant the use of heavy equipment. It should be again pointed out, however, that the farm operators concerned should first obtain advice on the location of these ditches and storage dams. Quite

frequently this can be done efficiently by a person having many years of experience in irrigating. Since there are quite a few farmers within the Special Areas who have had some irrigation experience the advice necessary should not be too difficult to procure. Moreover this would save the expense of employing a proper surveyor.

5. Weeds

There is only one weed that is greatly deteriorating the grazing land at the present time. This is the Western snowberry or Buckbrush as it is frequently called. The most noticeable feature of vast areas of grazing land is the scattered clumps of this weed. Although the Alberta Government's Supervisor of Weed Control maintains that this weed can be eradicated by chemical weed sprays, little has been done regarding such by the Special Areas Board or by Provincial Weed Inspectors. One of the difficulties is that the cost would be between one and two dollars an acre. In most cases the weed is in patches rather than being scattered evenly. The only economical way to spray would, therefore, be to spray the patches. There seems to be little likelihood that natural climatic conditions will prevent this weed from spreading. At the same time the weed covers such a vast area that it is unlikely that lessees of land will do much towards controlling it. It would, therefore, appear to be up to the Board to take steps towards the controlling and final eradication of this deteriorator of grassland.

The analysis of the use of unimproved or grazing land indicates that no significant increase in livestock numbers can take place if the productivity of the vegetative cover is to be permanently retained. In order to properly safeguard the future condition of the livestock being maintained a greater amount of range management seems necessary. The problems of over grazing and regrassing of over grazed native grass pastures have not received much attention by the Special Areas Board nor by the farmers in the area. Insufficient attention has been given to the problem of water storage for livestock on the range and to the control of weeds on such land. After all it is from this land that the Special Areas receive a major portion of their income.

CHAPTER XI

IMPROVED LAND

1. Acreage Relationships and Rotations

There were approximately 1,157,244 acres of improved land in the Special Areas in 1951 according to census and other calculated figures.[1] In 1951, 681,988 acres of this total were in crops, 368,162 were being summerfallowed and 64,951 acres were in pasture. The remaining 24,143 acres were classed as 'other land'.[2]

About 26 per cent of all occupied farm land may be classed as improved land. The average farm contains 268 acres in crop production, 152 acres in summerfallow, 25 acres in pasture and 9 acres which are used for the farmstead and other incidental purposes.[3]

The average farms for the various census subdivisions vary in amount of total improved area from 335 to 655 acres. The most noticeable feature in studying the average number of improved acres of land in each

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[1] 1951 census figures by subdivisions with additions for that part of a subdivision south of the Red Deer river for which figures were taken from municipal records. Deducations for small fringe areas recently deleted from the Special Areas were made on the basis of area.

[2] 'other land' is referred to by the Dominion Bureau of Statistics as farmland which cannot be classed under any of the various common categories. When considering unimproved land 'other land' refers primarily to grazing land, whereas when improved land is considered it refers to any land which is not cultivated or in pasture. There is an average of 9 acres of such land per farm in the Special Areas and presumably the most of this is used for the farmstead site.

[3] For further information see Appendix C, Table XVII, page 229.

census subdivision is the fact that the south western part of the area contains a significantly larger amount of such land per farm. The average farm in this area contains more acres of improved land, more acres of grazing land and larger numbers of cattle, horses and sheep. Though this region is recognized as one of the driest parts of the Special Areas, the average farmer summerfallows only 40 per cent of his crop land compared to 48 to 64 per cent in other regions of the Special Areas.[4] Though the average farmer in a very small census subdivision just east of Sullivan lake summerfallows only 35 per cent of his crop land this area does not offer a good comparison since such farms are located in the dark brown soil zone and frequently receive slightly more annual precipitation than the former region.

The smaller proportion of land in summerfallow to crop land would tend to indicate that more farmers in these areas are following a three year rotation program while in the areas where there is a larger amount of summerfallow the indication is that more farmers practise a two year rotation. The Stewart and Porter report used approximately the proportion of two fifths for summerfallow and three fifths for crop production in determining the farms which were marginal for wheat production.[5]

There are several common rotations in the Special Areas. The

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[4] For fuller details see Appendix C, Table XVIII, page 230.

[5] A. Stewart and W. D. Porter, Land Use Classification in the Special Areas of Alberta and in Roseheim and Acadia Valley, Dominion of Canada, Department of Agriculture, Publication No.731, Technical Bulletin No.39, (Ottawa, 1942), 71.

first, wheat-summerfallow, is probably the most common rotation. In a series of dry years this rotation is used more extensively than in years of increased precipitation. Another common rotation includes mostly wheat with a small amount of barley and oats on summerfallowed land. This may be followed by summerfallow the following year or may be partially reseeded to another crop of wheat, oats or rye. Few long three or four year rotations have been found successful. Even when a comparatively wet series of years occur few farmers grow more than two crops without summerfallowing. In northern areas a rotation of three or four years of brome, one year wheat, and back to brome, is frequently carried out.

The census subdivision in the south western part of the area previously mentioned had one of the lowest ratios of summerfallow to crop land and still in this area the 31 year averages of wheat yields and the 1951 wheat yields are as high in some cases as in areas which were summerfallowed oftener. The reason for this cannot be clearly determined. The opinions of farmers in the area differ. Some claim that the soil in the south western part of the region is such that moisture is better retained and so makes a second crop possible in all but the drier years. Other farmers contend that the difference is probably due to the time and methods used in cultivation. So far as is known no recent study of the effects of summerfallow and cultural practices on grain yields has been made. The problem should be further investigated to see if such a study would be warranted.

A great deal of the pasture land that is classed as improved land has been resown to crested wheat grass or to a mixture of crested wheat grass and brome. The regrassing policy established by

the Special Areas Board enables operators to procure grass seed for half of its regular price. Operators wishing to seed land to grass are not obliged to pay any crop share on such land for the two years prior to seeding.[6] The grass seed was at one time purchased by the Board but sufficient is now grown in the area to get a large part of the necessary seed from the crop shares owning on cultivation leases. The rest of the seed is obtained from certain fields which the Board has reserved for raising this required seed.

Though some regrassing may have taken place on over grazed virgin prairie, it appears that most of it has taken place on lands that were previously cultivated. The total improved cultivated hay land in the Special Areas is about 51,764 acres. Contrary to the opinion of many farmers the Board does allow a farmer to seed his cultivated acreage to grass and plow up land that was previously in a grazing lease. Though it is not known if virgin sod is ever plowed up in such an agreement, the records would tend to indicate that such is seldom permitted. In 1954-55 118 regrassing permits were issued covering an area of 8,028 acres.[7]

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[6] See item 3, page 41.

[7] Advisory Committee Meeting Annual Report, January, 1956, 36.

2. Crop Production

2.1 Wheat

2.11 Extent of Production

Spring wheat is by far the most widely grown crop in the Special Areas. A few farmers, probably fewer than 20 operators grow some Durum and fall wheat. Such wheat types have never been grown extensively.

The average farm for the whole area had 152 acres of wheat in 1951.[8] Though accurate census information on the number of farmers who grow no wheat is not available, it is believed from calculations made from known census data that the number of such operators is at least 300. If this were so, the area in wheat on the average farm would be 172 acres.

Though the average farm acreage in wheat was 152 acres the averages for the census subdivisions varied from 73 acres to 244 acres. The largest average acreages occur in the east central part of the Special Areas while the smallest acreages occur in the northern part of the region.

Through the early years of the Special Areas region the economy was largely based on wheat production. Though there were a few who specialized in livestock production in the early years, the trend from wheat to livestock did not become general until the 1930's. Since that time the shift has been quite noticeable. This change has been

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[8] For fuller details see Appendix C, Table XIX, page 231.

partly brought about by the Special Areas legislation and the administrative board, and partly by the increase in cattle prices. The Special Areas legislation tended to encourage beef production because it tended to curtail the amount of land under cultivation. At the same time the low grazing rates in the Special Areas have made the cost of summer pasture cheaper than in any other area. The higher prices prevailing for beef during the last fifteen years and the restrictions on grain marketing have firmly established the wheat-livestock type of economy on the average farm.

2.12 Wheat Yields

The long term average wheat yield for the period 1925 to 1955 for 47 localities within the Special Areas is 10.91 bushels per acre.[9] The average yields for 63 points from 1925 to 1940 was 10.58 bushels per acre, while for the period 1941 to 1955 it was 11.36 bushels per acre. The period 1951 to 1955 was a period of greater precipitation during the growing season than any period of five or six consecutive years during the 31 recorded years from 1925 to 1955. The average wheat yield for this period was 17.70 bushels per acre. The average yields obtained for most points in the Special Areas were lower than in most of the surrounding area.[10]

The average wheat yields for the average farm in the various census subdivisions correspond fairly closely to the averages for the

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[9] For complete information on average yearly wheat yields see Appendix C, Table XX, pages 232-236.

[10] For average wheat yields in surrounding areas see Appendix C, Table XXI, page 237.

whole area. Because of the difference in the number of points for which yield information is available in the various subdivisions, the averages obtained for some areas may be more accurate than others. In most cases, however, the number of points included in the average made little difference to the final average obtained.

The recorded data for the area indicates that the general area of Chinook, Dobson and Youngstown has had the smallest average yield for the four periods previously indicated.[11] The long term average yield in the area was 8.92 bushels per acre while for the last five years it was 14.33 bushels per acre. The highest yields for all periods were obtained in the most northerly census subdivision. In this region the long term average yield was 11.88 bushels per acre while the average yield for the last five years was 19.90 bushels per acre.[11]

It is difficult to compare average wheat yields as given by Stewart and Porter for the various regions within what was then the Special Areas with the yields given in other tables by census subdivisions.[12] The figures given by Stewart and Porter on yields according to type of soil agree reasonably well with the average yields obtained for the 31 year period. The lowest yields are in the light soil area, the solonized are slightly better yielding while in the northern region where heavier soils prevail the highest average yields

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[11] For fuller information by census subdivisions see Appendix C, Table XXII, pages 238-244.

[12] Stewart and Porter, op. cit., 44-45. Also see Appendix C, Tables IX and X, pages 210 and 211.

are obtained.[13]

Average wheat yields only indicate the general productivity under the prevailing climatic conditions and cultural practices. To obtain a clear picture of the wheat producing ability of the farm in the Special Areas it is of interest to compare the averages obtained in the Special Areas with those of points from the surrounding areas.

The average wheat yield for the period 1925 to 1955 for ten dry land farming areas located in roughly a horse shoe pattern around the Special Areas on the south, west and north, was 14.51 bushels. The average yield for the 1925 to 1940 period was 13.55 bushels, while for the period 1941 to 1955 it was 16.07 bushels per acre. The average yield for the last five years was 22.90 bushels per acre.[14] While these averages are higher for all periods considered than those for the Special Areas, the increase is perhaps not so great as might be expected. The difference in yield was 3.60 bushels for the 31 year period, 2.97 bushels for the 1925 to 1940 period, 4.71 for the 1941 to 1951 period, and 5.20 bushels for the 1951 to 1955 period.

A few operators in the Special Areas irrigate small acreages of wheat. No recorded yield data are available for such acreages. Since many residents look forward to an expansion of irrigation within the area, a glance at grain yields for irrigation districts possessing at least some similar soils and located in the same general region should indicate the upper limits that may be expected in average wheat

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[13] Ibid, 44.

[14] For complete details see Appendix C, Table XXIII, page 245.

yields from irrigation practices in the Special Areas.

The long term average wheat yields for the irrigation districts of Millicent, Gen and Tilley for the period 1925 to 1955 was 24.64 bushels per acre. The average for the 1925 to 1940 period was 22.06 bushels, while for the 1941 to 1955 period it was 26.84 bushels per acre. The average for the last five years was 27.44 bushels per acre.[15] The most noticeable feature of the irrigation average yields is the small variation for the various periods.

The comparatively light long term average yields of wheat in the Special Areas are not so much a problem as the unevenness of the yields from year to year. Many localities have experienced years when the drouth was so severe that it did not pay to harvest the crop. In other years the same area has had over twenty bushels of wheat per acre. The area has probably consistently received more assistance from the Dominion Government through the Prairie Farm Assistance Act than any other area in Alberta.

2.13 The Effect of Wheat Yields

Although census information is not yet available for 1956, it appears certain the acreage in most grains and particularly wheat, in the Special Areas will have increased over that of the 1951 census figures owing to the increased wheat yields. The acreage under governmental cultivation lease or permit will not probably change greatly owing to the restrictions which prevent such expansion. The privately

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[15] For complete details see Appendix C, Table XXIV, page 246.

owned acreage under cultivation is almost certain to see significant increase. It should be pointed out at this time that although only about 30 per cent of the total land area of the Special Areas is privately owned, a proportion of this is cultivated rather than grazed.

In the case of the small land owner the cultivated land has probably already been expanded to near the limit. It is a different situation with the large land owner. There is always the possibility that such owners will expand their cultivated acreage when years of increased precipitation and higher yields return, even though they realize at the same time that their new prosperity is likely to be short lived.

At the present time the Special Areas Board is especially concerned over the breaking up of a large amount of privately owned virgin prairie in the southern part of the area. This property was formerly known as the Vee Bar Vee ranch. It comprises at least 75,000 acres, and though it is probable that only seven or eight thousand acres have so far been broken, it is reported that the intentions are eventually to break at least 15,000 acres. Since much of the broken land is in larger tracts it is doubtful if the soil fertility and structure will be maintained when drier years once more return. Such practice in an area having a long term average yield of under ten bushels per acre is of doubtful economic value to the operators or to the rest of the country in general. It only increases the extent of future problem areas and for this reason should come under the close surveillance of agricultural experts having special powers to see that the extent of such practice is limited in all areas having a long record of requiring special assistance. When such land is broken agricultural officials must at least be given the power to enforce the use of those

cultural practices and procedures which are considered most suited to preserving the soil

2.2 Oats

The acreage in oats in the Special Areas in 1951 was 122,452 or slightly less than one-third of the acreage that was in wheat. The increase in oats over the last few years is due partly to more favourable climatic conditions and to the increased requirements caused by the increased number of livestock kept by the farm operator. During drouth years the yield of oats is very poor compared to wheat; under more favourable conditions yields as high as double or triple that of wheat have been recorded.

The average acreage per farm for the entire region is 49. When census subdivisions are considered, however, the average acreage varies from 30 acres to 81 acres per farm.[16] The east central region has the smallest average acreages while the northern regions have the highest ones. In the latter region more hogs, dairy cattle and poultry tend to be maintained on the average farm.

2.3 Barley

The barley acreage in 1951 was approximately one half that of the oat acreage or one sixth that of wheat. The total acreage was 65,007 acres while the acreage on the average farm was 26 acres.[17] As with oats the figures for census subdivisions in the northern area

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[16,17] For further particulars see Appendix C, Table XIX, page 231.

show a far larger amount of land in barley than elsewhere. The occurrence of larger acreages of both oats and barley in this region seems to indicate that a larger number of farms tend to be more diversified than they are farther south. From information received from farm operators in this area it would also appear that more livestock are fattened on grain in this area than in the regions farther south. The reasons for this tendency are factors such as smaller farms, high yield of course grains, better winter water supply, and probably better hay supplies.

2.4 Rye

The amount of land seeded to rye in the Special Areas tends to rise and fall with the market price. As a consequence the acreage for the various census years varies much more than wheat acreage. Though both spring and fall rye are grown the average acreage in fall rye tends to be less than that in spring rye. This is mainly due to the poor fall moisture conditions frequently not being sufficient to allow for good fall germination. The total acreage in rye in 1951 was 32,575 acres.[18] Though the number of operators growing rye crops is not accurately known, it is probable from available census figures that about 400 of the 2,548 grew some rye in 1951. Though the acreage in rye on the average farm was only 13 acres in 1951 it would appear that the average for those who grew rye would be about 81 acres. The figures for the various census subdivisions indicate a smaller amount of rye is grown in the east central

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[18] For further particulars see Appendix C, Table XXV, page 247.

and northern regions.

2.5 Flax and Mixed Grains

In the average year little flax or mixed grains are grown in the Special Areas. When extremely high flax prices prevail there is an increased tendency to grow flax, but the yields have never been too encouraging. Even when livestock prices were at their highest in 1951 only a small acreage of mixed grain was planted. The total acreage in 1951 was 2,787 acres of flax and 1,200 acres of mixed grains.[19] From available census information it would appear as if the acreages grown by individual operators would be in the neighborhood of 10 to 15 acres.

2.6 Hay Crops

There were approximately 51,764 acres of land in the Special Areas that were classed as improved cultivated hay land in 1951.[19] All land which has at one time been cultivated and is now reseeded to grass is included in this acreage. This classification includes all land in alfalfa and clover crops. There is no record available on the quantity of alfalfa grown for feed in the Special Areas. It is believed, however, that the total acreage does not exceed 2,500 acres. A large part of such acreage occurs in those areas where some irrigation takes place. A small amount of the alfalfa and clover acreage is grown in the northern sections of the area. The probable average yield is not greater than two tons per acre. If the estimated acreage is not excessive this would

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[19] For further particulars see Appendix C, Table XXV, page 247.

provide 5,000 tons of feed.

The remaining 49,264 acres of grass hay is for the most part Crested wheat grass and Brome. The average yield of such land in 1951 was .30 tons per acre.[20] The total yield would, therefore, be 14,779 tons.

2.7 Other Fodder Crops

Other fodder crops in the census data under the classification of improved land include oats cut for feed, other grains cut for feed and corn for fodder. The first two are the only ones of importance in the Special Areas.

The amount of oats and other grains cut for feed during various census years varies greatly. This is probably due to crops which do not develop sufficiently to give indications of a worthwhile harvest and are consequently cut for feed. There is, however, a considerable amount of such grains sown with the intention of cutting them as greenfeed. The total acreage in such crops in 1951 was 12,504 acres.[21] Since the census was taken in June the actual acreage cut for feed was probably greater than this.

It is estimated from the 1951 census information on 1950 yields that three quarters of such fodder cut would be oats and the remaining one quarter would be composed of other grains. In the same manner

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[20] Dominion Bureau of Statistics, Ninth Census of Canada, 1951, Agriculture, Volume VI, Part 2, Table 19-2, Average Yield for Division 5.

[21] For further information see Appendix C, Table XXV, page 247.

it was estimated that the yield for oats cut for feed was .79 tons per acre, while the other grains yielded .66 tons per acre.[22] Using these figures there were 7,405 tons of oat hay and 2,061 tons of other grains, making a total of 11,466 tons.

2.8 Total Feed Supplies

The acreage or tons of hay obtained from unimproved land for any year are not obtainable for the Special Areas. The nearest comparable estimate is that given in tons for Census Division 5 which includes a large part of the Special Areas. The yield given for this area is 21,699 tons for the year ending 1950. If this figure is used for the tonnage cut in 1951 in the Special Areas, the total hay tonnage from all sources was 50,944 tons[23] or an average of slightly under 20 tons per farm. Though the moisture conditions were favourable for growth in 1950 and even more so in the six years since, it must be remembered that the years immediately prior to 1950 produced comparatively light hay crops. The basis on which the yields were calculated would tend to be less than that which now prevails. It is quite possible the given acreage would produce double the above tonnage at the present time.

Even allowing for a considerable increase in yield due to better moisture conditions the hay tonnage produced is too small to furnish the necessary feed requirements of the animals maintained during long severe winters.

In 1951 there were 51,328 cows and heifers kept for beef besides

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[22,23] Dominion Bureau of Statistics, Ninth Census of Canada, 1951, Agriculture, Volume VI, Part 2, Table 19-2, Average Yield for Census Division 5.

some 1,700 bulls, 9,554 ewes and wethers and 13,540 horses being maintained. Though there are a few wethers included in these figures, these could be disposed of during a feed shortage and the horses could probably forage for themselves. There would, however, still remain over 52,000 animals that must be maintained on a small amount of hay. Even when allowances are made for increased hay yields the small quantity available is far below the safety level. Besides the expected maintenance requirements hay supply should provide at the minimum sufficient feed to carry cattle over at least an extra two month winter period in order to make allowance for a longer than average feeding season.

The feed supply for the winter months appears to be a greater problem in the increasing of livestock population than does the amount of summer grass. There are several ways in which the tonnage could be increased. It appears that quite a large amount of land that could be irrigated by the existing small irrigation works constructed by the P.F.R.A. is not being used at the present time. Though the farmers and ranchers in the vicinity of such land may not need extra feed supply at the present time it does seem that such operators are short sighted if they do not prepare now for decreased feed supplies when drouth conditions once again return.

The yields obtainable by sowing various grains with the view of cutting them for greenfeed would seem to warrant some investigation. It appears that oats provide much greater tonnage than other grains or mixtures cut for feed. When there has been more than one year of greatly increased moisture and the following spring moisture conditions appear adequate it is believed that greater use of legumes especially sweet clover and alfalfa might be made, especially in the northern sections of the area.

The amount of improvement of natural hay meadows in the Special Areas has been comparatively small. A careful study of the possibilities and adaptability of some of the newer grasses in sloughs which normally dry up during the summer months should be made.

Though a considerable amount of regrassing has taken place on previously cultivated land little has been done about regrassing those areas which have been previously over grazed. An attempt should be made to reseed all such areas during years of good precipitation. Since the welfare of the community rests largely on what can be produced from land, the approximate expenditure of $2500 dollars annually on grass seed appears to be out of proportion to the $500,000or so spent on roads in the area.[24] Grants from the government help to foster road construction but similar smaller grants for regrassing of marginal lands whether improved or unimproved land would probably increase feed supplies, foster the keeping of more livestock and contribute yearly to the welfare of all residents.

The grass most suited for such a program is Crested wheat grass. It is of interest to note here that in a land use study of the rural municipality of Gravelbourg in Saskatchewan the Swift Current Experimental Station is quoted as saying that one acre of Crested wheat grass along with 3 acres of native pasture will produce as much grass as 8 acres of native pasture.[25] In this study the reseeding of all depleted pastures

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[24] For full details on expenditures see Appendix C, Tables XXXIX and XL, pages 261-2 and 263-4 respectively.

[25] Agricultural Committee of the Gravelbourg Municipality No.104, Report of the Land Use Survey made in the Rural Municipality of Gravelbourg, No.104, (Gravelbourg, 1950), 18. (mimeographed)

to Crested wheat grass is recommended. Similar studies by other committees on Land Use in the Rural Municipality of Morse, Saskatchewan, and in the rural municipality of Reno, Saskatchewan, also recommend extensive regrassing of over grazed land with Crested wheat grass.[26]

With the increased use of combines, less straw is available for winter feeding of livestock. Though some farmers do use straw saving devices on their combines, the number of operators that do this is thought to be comparatively small. Greater publicity of how to construct one of these simple devices would probably result in a greater storing of straw for winter feeding.

2.9 Potatoes and Gardens

The acreage in potatoes is so small that it is of little importance in the study of land use.[27] An estimate made from the breakdown of 1951 census figures indicates that approximately half of the farm operators raise some potatoes. In visiting farms in the area over a number of years, the author has noticed that where potatoes are not grown there is usually no attempt at raising a garden. Though good gardens are difficult to grow in normal years in the Special Areas without the application of water, operators vary a great deal in what they can accomplish under identical conditions. The better gardens tend to be on

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[26] Agricultural Committee of the Morse Municipality No.165, Report of the Land Use Survey made in the Rural Municipality of Morse No.165, (Morse, Saskatchewan, 1951), 19-20. Agricultural Committee of the Reno Municipality No.51, Land Use Study, (Vidora, Saskatchewan, 1951), 26. (both mimeographed)

[27] For further particulars see Appendix C, Table XXV, page 247.

those farmsteads having trees which protect the garden from hot summer winds. In most cases a special endeavour is made by the use of trees, bushes or snow fencing to trap extra snow on the garden plot. A rotation allowing one plot to be summerfallowed while the other plot is being used appears to nearly always give beneficial results.

2.10 Registered and Certified Grains and Grasses, 1955[28]

2.10.1 Crops Inspected

Though small amounts of grains are field inspected for registration or certification each year, by far the largest acreages are in Brome grass. The amounts of both grains and grasses inspected each year are largely determined by the spread in prices between commercial and registered or certified seed from the year previous.

2.10.2 Brome

In 1955 approximately 5,677 acres were inspected. Of this total acreage about 975 acres were refused certification mainly because of the presence of Couch grass. The areas around West Wingham, Scotfield and Spondin grow the most of the Brome seed. The average estimated yield in 1955 was just over 167 pounds to the acre. The estimated total yield of all inspected fields was 948,400 pounds.

The amount of Brome not inspected in 1955 is not known. A rough estimate would be approximately 6,000 to 7,000 acres.

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[28] Plants Products Division, Dominion Department of Agriculture Office records for 1955, Calgary.

2.10.3 Other Crops

Approximately 761 acres of registered or certified wheat were inspected in the Special Areas in 1955. The localities in which such crops were grown were scattered over a large part of the area. It is of interest to note that the average total estimated yield was 33.71 bushels. There were fourteen growers in all. Though field estimates tend to be slightly high the yield does seem to indicate that special care through good cultural practices pays off in yields. There were only 7 fields of barley inspected in the area in 1955. The average estimated yield for the total 248 acres was 41 bushels per acre. Only one field of oats was inspected. The estimated yield on it was 60 bushels per acre.

Small acreages of Crested wheat grass and Bluegrass are frequently grown. The setting of the seed of these crops is not too dependable and as a result most farmers prefer the more reliable Brome. The Brome is preferred because of the extra amount of fodder provided after threshing, and also because of the good stubble growth obtained after harvest.

3. Cultural Practices

3.1 The Use and Effect of Various Machines on Cultivated Land

The methods of cultivating and of harvesting have changed significantly in the Special Areas since settlement first began. Plows were the principal cultivating implement until 1929. Machine companies sold the first one-way disc tillers in the area in 1929. However, sales of this machine were not significant until 1936. The peak sales of one-way tillers was reached about 1941 and declined steadily afterwards. Since 1950 the sales of such machines have been insignificant in this

area.[29]

The one-way disc gained popularity because it was possible to cultivate and still leave part of the trash exposed, and so tend to counteract soil drifting. The machine also attracted attention because with it the number of operations was cut to once over the land when the seeding equipment was mounted on it. This together with the more rapid coverage of land and its comparatively light draft, had made plow sales practically nil by the mid 1930's.

Though the mold-board plow did have the disadvantage of being slow and of burying all of the trash cover, it had the advantage of cutting to a more even depth and so giving a more even depth to the seed bed.

In 1944 the first Graham-Hoeme plows were introduced in the area and these were followed three years later by the Geoffrey plow.[30] These heavy duty cultivators and chisel type plows never met with great popularity in the Special Areas. They have the advantage over disc machines in that they are able to penetrate hard soil more easily and at the same time leave the surface trash entirely on top of the soil thus giving good protection against erosion. Information on the sale of these machines is scanty, however, it appears that they never were purchased in significant numbers.

The Noble Blade was introduced to Alberta farmers in 1938. The

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[29] Personal communication from the John Deere Plow Company Limited, Calgary, June, 1956.

[30] Personal communication from the International Harvester Company, Calgary, June, 1956.

principal value of this machine is that it cuts at a uniform depth, and leaves an undisturbed trash cover on top of the soil. Though this machine has been used by some operators in the Special Areas the extent of its use is not believed great. This may be due to the lack of dealers who are not affiliated with some other major company. It would appear that this or a similar machine should be particularly valuable in an area subject to extremely dry conditions and to soil erosion.

A few of the farmers interviewed in the course of this study had at one time tried out such machines but found them heavy pulling. Though this attitude may be justified on some soils, the results of tests at experimental stations indicate that they pull more easily than a one-way disc at the same depth. This difference of opinions may be due to the fact that the blade machine tends to cut evenly through hard spots which disc implements tend to skip. To determine, therefore, whether this machine would have a heavy draft in the various soil types of the Special Areas would involve using it for two consecutive years.

Since 1950 the one-way disc tiller has been for the most part replaced by the wide-level disc tiller. This machine while being similar to the one-way tends to do an evener job and also makes it possible to cover more acres per day at little additional expense.

In this traditionally dry area, stubble is commonly turned under and in the summerfallow period following there is insufficient moisture to decompose the stubble fully. When the crop is sown the following year this crop residue takes up some of the nitrogen in the process of decomposition making it unavailable to the growing plant.

In very light stubble the use of disc type implements offers little protection from erosion. In heavy stubble they are one of the best

implements that can be used. In such a stubble, however, they usually fail to cut evenly. The ideal way of obtaining an even seed bed under such conditions would be to go over the land once with a one-way or wide-level disc and then to go over it with a blade machine to cut through to an even depth. This method will not cover too much straw to compete for nitrogen with the growing crop and at the same time it will leave a good protective residue on top of the soil.[31]

It would appear that the use of disc type machines in the Special Areas is largely based on economy of operation rather than on quality of work, highest possible yields and protection against wind erosion.

Though the increase in yields from the use of blade and chisel type cultivators would probably not be great, the summerfallow worked with these machines should retain snow and spring rains far better than when worked with disc type machines.

Blade cultivation immediately after harvesting was compared at the Lethbridge Experimental Station for a period of eleven years, with one-way discing, basin listing and no after harvest cultivation on land that was to be seeded the following spring.

> In the 11 years, the bladed field gave the highest yield five times and the 11 year average was 14.7 bushels per acre. Basin listing produced 14 bushels per acre, while the undisturbed field produced 13.6 bushels as compared with 13.4 for one-way discing.[31]

While it has been generally thought that the era of the mold-board plow was long since over in this region except for sod breaking purposes, one major machine company's sales record that its sales of this

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[31] Personal communication and extracts taken from the results of field experiments received from Mr. S. F. Noble, Nobleford, July, 1956.

implement have steadily increased since 1948. Sales are, however, still far below those for wide-level discs.[32]

The change over from threshing machines to combines took place in the Special Areas in the late 1930's and early 1940's. This change, while decreasing the amount of straw available for livestock maintenance, increased the protection of the soil from wind erosion by the increased amount of stubble left on fields. At the same time more snow was held evenly over the fields and spring run off water was better retained.

While it is doubtful that the Special Areas Board can do a great deal towards influencing the farmers to experiment in the use of machines which give a greater degree of soil protection, it must, however, be admitted that little has been attempted. Since this is a Special Area it would seem to be the duty of officials in charge of such a region to carry out and foster experimentation on land practices which have possibilities of decreasing the factors which make this a problem area.

3.2 Fertilizers

Though no statements of fertilizer sales were obtainable for the Special Areas, discussions with farmers, machine agents and commercial fertilizer companies indicated that the use of fertilizer is comparatively light. There was some indication that more was used in the northern part of the area than elsewhere but the information was not conclusive. It is doubtful if the use of commercial fertilizer would be economically sound under average moisture conditions.

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[32] Personal communication from the John Deere Plow Company Limited, Calgary, June, 1956.

The results of fertilizer tests carried out in Acadia Valley by the Lethbridge Experimental Station indicate that the increased returns received from the application of fertilizers to cropland will pay for the cost of the fertilizer. Little actual profit, however, has been evident from trials so far conducted. Other benefits received from such are quicker growth, earlier maturity and prevention from lodging. Fertilizer trials on grain crops in various parts of the Special Areas have not increased yields sufficiently to warrant the application of commercial fertilizers.[33]

At the present time owing to higher than normal annual precipitation the use of commercial fertilizers might be worthwhile. The increased profits, however, that might be realized, can only be determined by the individual farmer after several consecutive years of applying fertilizer and comparing the results with non-fertilized fields. The soil deficiencies of the Special Areas are similar to those prevailing in the entire brown soil zone of southern Alberta, the general deficiency being one of low phosphorus and nitrogen content.

No great quantity of manure is collected from the farm animals owing to the fact that these are not usually fed in feed yards during the winter months. A large part of the manure that is available is spread on gardens and on cultivated fields close to the farmstead. The effects of this manure are quite noticeable in most gardens and frequently noticeable

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[33] Information received from the Department of Soil Science, University of Alberta, Edmonton.

when applied to field areas.

3.3 Irrigation

Although the Special Areas is a region in which extensive irrigation development may eventually take place, the developments to date have been of relatively minor importance so far as extensive irrigation is concerned. For the most part any irrigating that is done is a result of P.F.R.A. The Red Deer Irrigation Development Project which would irrigate between 400,000 and 500,000 acres in the area is still a dream of the future, although a number of surveys have taken place in connection with the project in fairly recent years.

If the Red Deer river development does eventually become a reality it will make a great difference to that area now known as the Special Areas. The Dominion Government is the only hope of having such a program fulfilled. At the present time, however, the Dominion Government policy appears to be one of moving very slowly in further irrigation development. One reason for this is the lack of interest farmers have shown towards taking up land which is ready for irrigation farming in other parts of southern Alberta. From indications of the use being made of small projects in some parts of the Special Areas such apathy would also be apparent if the Red Deer project had been built and was available now.

In spite of all the advantages that have been listed in numerous publications on the advantages of irrigation, wheat still remains the predominant crop on irrigated land in Alberta. Though some areas do grow specialized crops, they are largely grown in areas most suited climatically to their production. Before extensive production of such products is

warranted, new and larger markets must be found. Though the yields of wheat are comparatively heavy on irrigated land, the costs of operating are also high compared to dry land farming and at the same time the hours of hard labour are probably double or triple those required on dry land to produce a crop. Irrigation projects must be used in order to produce dividends not only from the standpoint of the farmer but of the nation as a whole. To have irrigation on a farm is a wonderful thing in that drouth can be forgotten but it also means that water charges per acre will have to be met every year whether the water is used or not. Just as long as dry land farmers can obtain a yield of 15 bushels or more of wheat to the acre, few of them are going to be interested in sizeable acreages of irrigated land.

The major advantage of irrigation in the Special Areas is that of increasing the livestock feed supply. With better feed supplies the land could sustain a much larger livestock population.

At the present time the soils in the proposed Red Deer River project area are being tested for their reaction to the application of irrigation water. Much of the soil of the proposed irrigation area is of the solonetz type. Some authorities believe such is not entirely suitable for irrigation development. At the present time only evasive statements on the results of the tests have been made. It is expected to take several years before any definite statement can be made.

The P.F.R.A. has constructed a number of comparatively small irrigation projects and irrigation storage dams in the Special Areas. For the most part these are located in the area south of Hanna. The 1954-55 annual report gives 62,000 acres that can be irrigated from these storage reservoir and pumping projects. The storage capacity of these reservoirs

is small compared to the number of acres the water stored is supposed to irrigate. In some cases, however, the water supply would be increased by the flow of natural streams in all but very dry years. The two large pumping projects constructed by the P.F.R.A. are located at Atlee.[34]

The Berry Creek development has been the most utilized in the Special Areas. In this area possibly 1,000 acres are being irrigated. Farmers in this locality are only allowed irrigation leases on 40 or 50 acres of irrigable land. The object of this project as with most of the others is to provide the means whereby the farmers owning livestock can be assured of an adequate feed supply. Some of the farm operators who have taken out these leases travel as much as 20 miles to irrigate and cut the hay crops which they raise on such land.

There were 146 individual irrigation projects in the Special Areas in 1954.[35] Most of these were very small projects in which only gardens and a few acres of land were irrigated. In areas where more extensive irrigating takes place it is usually limited to one light application of water each year.

The overall acreage of irrigated crops in the Special Areas is thought to be about 2,000 acres. At the present time no estimates exceed 2,500 acres. Though the P.F.R.A. has done a lot towards providing the means for the irrigating of land, the most noticeable feature found on visiting such projects was that other than as a source of livestock

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[34] Canada Department of Agriculture, Report on Prairie Farm Rehabilitation and Related Activities, 1954-55, Prairie Farm Rehabilitation Branch, (Regina, 1955), 84-86.

[35] Personal communication from L. E. Helmer, Agricultural Supervisor, Hanna, Alberta, May, 1956.

water supply, the main use being made of many reservoirs is to provide a place to fish for the local residents. Until such time as greater interest is shown and fuller utilization made of such projects that have been set up, it is doubtful that further development for irrigation purposes can be fully justified except where the expense is comparatively low.

It has been shown in this chapter that there is only about 26 per cent of the improved land in crop production. There is quite a variation in the amount of cultivated land contained in farms in the various regions. The average farm, however, only contains about 268 acres of crops each year. The amount of summerfallowing that has to be carried on to conserve moisture for the following year leaves approximately one third of the improved land idle each year. Wheat is the major crop grown. Long term wheat yields indicate that wheat yields in the Special Areas are lower than those in the surrounding region. It appears, however, that higher yields could be realized if a greater amount of consideration were given to the use of better grain types and varieties, and to the cultural practices necessary to their production. The study reveals that some parts of the Special Areas may be expected to require nearly continuous assistance through the Prairie Farm Assistance Act. The small amount of livestock feed produced yearly appears to be a greater handicap to the increasing of farm livestock than does the shortage of summer grass.

CHAPTER XII

LIVESTOCK PRODUCTION

1. The Part Played by Livestock in the Special Areas

The raising of beef cattle comprises the major portion of the livestock industry in the Special Areas. Sheep are raised but the total number is only about one seventh that of cattle. Horses still play a fairly important role on the farms and ranches. The number of young horses is, however, steadily decreasing. The number of swine kept is about half that of sheep. There are quite a few farm operators that do not keep milk cows. Where cows are kept for milk purposes the numbers are comparatively small.

2. Cattle

Approximately 502 of the 2,548 farmers in the Special Areas kept no cattle in 1951.[1] The total number of beef animals kept was found to be approximately 85,186 of which 44,475 were cows or heifers over one year of age.[2] There were approximately 809 operators who had no cows kept for beef purposes which were over two years of age.[3] Over 1,400 operators were found to have no cows kept for beef between

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[1] For further particulars on operators having cattle see Appendix C, Table XXVI, page 248.

[2] For further particulars see Appendix C, Table XXVII, page 249.

[3] For further particulars see Appendix C, Table XXVIII, page 250.

one and two years of age.[4] These figures would tend to indicate that a large number of the younger animals were sold during the 1951 period of high cattle prices. Only about ten per cent of the total farm operators having beef cows over two years had more than 33 head. There were 28 operators who had 93 head or more of beef cattle over two years of age.

Though the average for all farms in the area is 17 head, the averages for the various census subdivisions vary from 48 head per farm in the south western part of the Special Areas to 10 head in the area just west and north of Acadia Valley.

It is reasonable to assume that the 809 operators with no beef cows over two years of age are for the most part raising no beef cattle. It cannot be assumed, however, that this number represents those operators who produce only grain. Though it is probable that a large majority of those who keep a few sheep also keep some beef animals it is reasonable to assume that those with more than 12 head of sheep may have only sheep. There are approximately 39 operators with more than 12 ewes and wethers. If these are deducted from the 809 operators with no beef cows over two years of age it is possible to arrive at a figure which represents those farms which are mainly in grain production. There should perhaps be a further slight reduction in the 770 farms indicated to allow for a small number of operators who raise dairy cattle, horses or hogs. Even after such allowances it appears likely that at least 700 of the 2,548 farms are operated entirely on a grain growing basis. Though

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[4] For further particulars see Appendix C, Table XXIX, page 251.

average available grass acreage, not allowing for hay cut off such areas, allows for an average of about 30 head of mature cattle per farm, the figures here indicate that 1,665 farms had either no cattle or less than 32 head. At the same time there are slightly more cattle in the Special Areas than the grazing carrying capacity allows for. This would tend to indicate that the small operator has probably little opportunity to expand his farm by the addition of a grazing lease, even though he desired to do so.

The increase in the amount of livestock feed available would greatly facilitate the keeping of more livestock. In the northern part of the area the creation of a community pasture would benefit many farmers in that region.

Out of 2,548 farm operators in the Special Areas approximately 1,067 had no cows over two years of age being kept for milk purposes.[5] It should be noted here that there are 421 non-resident farmers who normally would not keep dairy cattle. There was found to be no marked differences among the various census subdivisions in the numbers of animals kept for milk purposes. It is quite likely that there will be a further reduction in cows kept for milk purposes since only 332 operators had any cows under two years of age that were being maintained for milk purposes.[6]

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[5] For further particulars see Appendix C, Table XXX, page 252.

[6] For further particulars see Appendix C, Table XXXI, page 253.

3. Sheep

Although the figures shown in the 1951 census indicate that some small flocks of sheep were kept in each census subdivision, nearly half of the 13,803 head were located in the south western part of the area.[7] In this area the average per farm was 24 head. One subdivision had no sheep while the remaining areas had an average of 4 or less per farm.

There was a total of 78 farm operators who maintained some sheep.[8] Thirty-five of these operators had less than eight head so cannot be looked upon as raising sheep in commercial quantities. Another 20 operators had fewer than 47 head. Of the remaining group 4 operators had from 48 to 77 head while 19 had from 78 to 177 head. Only 15 had over 178 head. Of the 78 operators owning sheep, only 72 of these owned flocks of ewes and wethers in 1951.[9]

4. Horses

A total of 13,540 horses within the Special Areas appears at first glance to be much more than is necessary to operate 2,548 farm and ranch units at a time when mechanization has replaced the horse for field work.[10] The average number of horses per farm was 5 for the whole area.

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[7] For further particulars see Appendix C, Table XXXII, page 254.

[8] For further particulars see Appendix C, Table XXXIII, page 255.

[9] For further information see Appendix C, Table XXXIV, page 256.

[10] See Appendix C, Tables XXVII and XXXV, pages 249 and 257.

This average was the same for all subdivisions except two. In one of these the average was 4 head while in the other the average was 10 head. This latter subdivision includes all the south western part of the region.

Of the 2,548 farmers in the area 1,099 reported having from 3 to 7 head of horses. On these farms the average of 5 per farm is quite reasonable. Practically the same number reported having only 2 horses as reported having from 8 to 12 horses, there being 343 and 331 respectively. The next largest group of 95 farmers reported only one horse.

While the above distribution of horses seems to be quite reasonable for those farms on which horses are used for putting up hay, there are indications that numbers of operators maintained more horses than were economically justifiable. There were 135 operators having from 13 to 32 head. Twenty-eight operators had from 33 to 62, two had from 63 to 77 head, one had from 78 to 122 head and three had from 123 to 177 head.[11] While it may be true that many of these horses are necessary as saddle horses on those farms having large numbers of cattle, there were only 28 operators who maintained about 100 or more head of beef cows over two years old. It would, therefore, appear that a small group of operators could not possibly utilize the number of horses they maintain as either work or saddle horses. It has been reported at least one of the largest bands of horses is maintained for rodeo purposes.

A further reduction in the number of horses is desirable. Although they still have an important place on farms keeping livestock, the numbers kept on many farms are excessive. To a certain

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[11] For further information see Appendix C, Table XXXV, page 257.

extent the decreasing number of young animals that are raised will automatically cut the number that compete with other livestock for grass.

5. Swine

Approximately 1,716 or 67 per cent of the farms in the Special Areas kept no swine. Of the remaining 33 per cent, 11 per cent had only 1 or 2 hogs. Over 14 per cent had from 3 to 12, and 6 per cent had from 13 to 32 hogs. The farms having over 33 hogs made up slightly more than 1 per cent of all farms.[12]

In 1951 the total number of hogs kept on farms was approximately 7,386.[13] Average farm figures for the various census subdivisions indicate more hogs were kept in the northern regions than in the south and particularly the south central region.

6. Chickens

The total number of chickens in the Special Areas in 1951 was about 163,477.[14] Of this total hens and pullets totalled 54,045 while other classifications totalled 109,432. Slightly more than one third of all farm operators kept no chickens. As with swine the numbers of chickens kept per farm appear to be lightest in the south central region. Roughly 30 per cent of those keeping chickens had fewer than 50,[15] another

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[12] For further particulars see Appendix C, Table XXXVI, page 258.

[13] For further particulars see Appendix C, Table XXXII, page 254.

[14] For further particulars see Appendix C, Table XXXII, page 254.

[15] For number of operators having chickens see Appendix C, Table XXXVII, page 259.

third had between 50 and 177 and slightly less than a third had flocks exceeding this figure. There were 74 farms having flocks varying from 273 to 527 chickens. Few farms had flocks which exceeded this. Four farms had flocks varying from 528 to 972 birds and only two had flocks in the 973 to 2,027 range.

The above figures indicate that while the number of farm enterprises which rely heavily on poultry profits is comparatively small there are a few who evidently have found it profitable. It also seems reasonable to assume that about two thirds of the poultry raisers sell eggs from the poultry kept on farms.

Chickens use a comparatively small amount of grain in relation to returns from eggs. At the same time they can perhaps be more quickly increased or decreased than other farm animals. Since it appears likely that a considerable number of operators find poultry raising a reasonably profitable sideline, a sampling study might be worth while to find out how profitable such an enterprise is on those farms which sell reasonable amounts of eggs.[16]

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[16] The Agricultural Committee of a Land Use Study made in the Rural Municipality of Reno, Saskatchewan, in 1949-50 recommended an increase in turkey and chicken production. The conditions prevailing in that municipality are similar to those of the Special Areas.

CHAPTER XIII

FARM VALUES

1. Total Average Value of Farms

If an economic farm unit could be defined for the Special Areas it would be of value in determining the farm operators who are financially able to carry out those practices which would give the highest possible returns and at the same time make the most efficient use of land. Unfortunately, to arrive at a definite conclusion on the economic farm unit in the Special Areas would require several years of careful study and a survey of a large number of farms. The value of such a study is at the same time questionable since farms may be profitable under prevailing conditions but not at another time. The most that could be hoped for in this type of survey would be to indicate with a high degree of accuracy those farms which in the long run are probably too small to be efficient farm units.

In this section of the study on land use a careful scrutiny of the known facts and investigations will be made in order that some idea of the probable number of uneconomic farm units can be determined.

The average total value of farms in the Special Areas according to the 1951 census and other calculated data was $19,271 per farm. The range of variation in the valuations for the average farm by census subdivisions is not great except for the subdivision comprising all of the south western part of the area. The average farm value in this region was $31,900. There was only about $2,200 difference in the total values of farms in the remaining subdivisions, the lowest farm values being in

the area south of Consort and extending as far as Naco.[1]

The average farm for the whole area had machinery valued at $4,444. In the light of cost of farm machines this average would appear to indicate that a large amount of old machinery was being used and relatively few new machines had been recently purchased. It is rather doubtful that farms having only the average amount or less of farm machinery can efficiently operate a farm unit which is of sufficient size to be an economically sound venture. The exceptions to this would likely be those farms with larger livestock enterprises. This view tends to be supported by the fact that the two census subdivisions having the greatest number of livestock are also the only two areas where the average machinery value was below $4,444. The average value of farm machines is below $5,000 in all census subdivisions. The three main machines kept on farms are a tractor, a wide-level disc tiller and a combine. Even though all farms do not have combines the average farm machinery value indicates that the per cent of new equipment tends to be low. Nearly all farms having livestock have some haying equipment but very little of it is new enough to affect the average farm equipment value.

The average farm value of livestock for the region is $7,727. The highest average value for any census subdivision was $19,407 while the lowest was $4,590. The former area is located in the south western part of the area while the latter is in the south eastern part of the

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[1] See Appendix C, Table XXXVIII, page 260.

region north of the Red Deer river. The values of farm livestock have all dropped since 1951 with perhaps the exception of horses. Using a price index on the basis of the 1935-1939 = 100, the 1951 price index for all livestock was 407.2 while in 1955 it was 263.2.[2] Applying this to the value of livestock in the Special Areas the average farm value of livestock has dropped from $7,727 to $4,994. The average farm value in the census subdivision having the greatest number of livestock has dropped from $19,407 to $12,544 while in the subdivision having the least it has dropped from $4,590 to $2,967.

Although the index used above is based on figures for the whole of Canada, the decrease in value appears to be even greater when Calgary prices for the years 1951 and 1955 are considered.

The average value of land and buildings in the Special Areas was $7,100 in 1951. There is no consistent relationship for the various subdivisions between land values, amount of livestock, size of farm or grain yields.

The land and buildings in the south western part of the region had the highest average value per farm, being $8,510 while the area south of Consort as far as Naco and east from Ballenden to the Saskatchewan border had the lowest valuation. In this area the average farm value of land and buildings was $5,176. The only other census subdivision having the average farm value of land and buildings below $7,000 was in the area going south from Sedalia as far as Helmsdale.

The average total values per farm and the breakdown of the totals

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[2] Dominion Bureau of Statistics, Price Index, 1951, Ottawa, 9 and Price Index, 1955, Ottawa, 10.

under machinery, livestock, land and buildings give the general indication that the larger size farm unit found in the south western part of the area is in a position to better withstand adverse farming conditions than are those in other regions of the Special Areas. Though this region has a comparatively smaller amount of farm machinery the valuation of land and buildings is higher and the livestock values double or triple those of other regions.

To arrive at conclusive evidence of actual profits per farm in the Special Areas would require an extensive survey of a number of sampled farms from at least each census subdivision. Though such a survey is beyond the scope of this study it would give a fairly complete picture of the economic strength of the farms in the various regions when combined with the 1956 census information. Though size of farm and livestock numbers are believed to be the most important items in the maintenance of economic farm units, no conclusive evidence can be obtained by means of farm averages and other incomplete information.

2. The Dominion Government Study of Land Use in the Special Areas

The Economics Division of the Dominion Department of Agriculture carried out an investigation into land use in the Special Areas in 1950 and 1951. The purpose of this study was to make an economic appraisal of whether the change over from wheat farming to a wheat and cattle type of farm unit has reached an adequate adjustment in the Special Areas. A secondary purpose was to indicate possible policy alternatives to

obtain the desired efficiency of farm units in this area.[3] The study was carried out by selecting 96 contiguous townships in areas south and east of Hanna which are for the most part located in the region of the proposed Red Deer River Irrigation project, as representative of the Special Areas. Two sources of information were used, the first was the information received as a result of a study of 58 farms, the second was the result of close scrutiny of the records of the Provincial Department of Municipal Affairs and the records of the Prairie Farm Assistance Act.

In making use of this Dominion Government study the results of the findings from the 58 sampled farms will be mainly considered. The results obtained from the two sources of information both led to the same conclusions.[4] In using figures and information obtained from the 58 sampled farms it must be noted that as a result of the method of selection of the samples the sampled farms tended to be larger than average in size and to be more commercialized in their cattle enterprise than the average farm. Farms which had 10 head or fewer cattle were not used in the survey.[5] It has previously been shown that approximately 502 of the 2,548 farms had no cattle in 1951. There were at the same time approximately 400 farmers who had 10 head or fewer. This, therefore, indicates that the sample could only represent about 65 per cent of all farms. It should be pointed out that in the area studied there was a

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[3] W. Darcovich, Appraisal of Dryland Farming in the Special Areas of Alberta, Economics Division, Dominion Department of Agriculture, (Ottawa, 1954), 6.

[4] Ibid, 26.

[5] Ibid, 9.

high concentration of large farms. Census figures indicate that in this area are also found many of the largest cattle herds. All of these factors tend to decrease the value of the survey as far as applying the findings to all farms in the Special Areas is concerned.

3. The Conclusions Drawn from the Dominion Government Study

As a result of the study of the 58 sampled farms in the Special Areas the Economics Division of the Dominion Department of Agriculture found that

> From the organization of the 58 sampled farms . . . it appears that the majority of the farmers, though not all, have been able to achieve a desirable adjustment in terms of a commercial wheat-cattle type of farm. From the economic appraisal of the 58 sampled farms . . . and particularly from the average farm it was shown that one half of the farmers have been unsuccessful in achieving a desirable scale of farm unit. The inadequate scale of farm unit appears to be confined more to the cattle rather than the crop enterprise; this is shown by the joint distribution of farms according to cultivated acreage and cattle numbers . . . and also by the likely understocking of cattle on the existing grazing acreage.[6]

There are differences in some of the findings obtained from the 58 farm survey and those found in this study. In the former case the average farm was found to contain 442 acres of cultivated land and 1,980 acres of grazing land, compared to 454 acres of cultivated land and 1,268 acres of grazing land in the latter case.[7] When community pasture is added the latter figure may be raised to 1,355 acres.

The 58 sampled farms had an average of 34 animal units of cattle,

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[6] *Ibid*, 26.

[7] *Ibid*, 10. Also see Appendix C, Tables XVI and XVII, pages 228 and 229 respectively.

11 animal units of horses and one animal unit of other stock.[8] Using the same method in the present study the average farm had 37 animal units of cattle, 3 animal units of horses and 2 animal units of other stock including poultry. The difference in cattle units here is most likely due to the number of calves, heifers and steers that were calculated to be included in the total number of cattle. The high number of horse units found in the government study reflects the unsoundness of making an area study and applying it to a larger region of which it is a part. A large part of the area on which the government study was based is shown in this study to have 10 horses on the average farm unit, while the average obtained using census figures is only 5. The increase in the other livestock also can be attributed to fewer chickens and swine in the study area than are found over the whole region. The discrepancy was somewhat made up by the fact that there were more sheep in the area than were shown by the figures indicated by the government study.

The view of the government study is that the grazing range is understocked.[9] The results of this study tend to oppose this view on the following grounds. The range now has more livestock on it than the recognized carrying capacity of the grass calls for. It is believed, however, that there is surplus grass at the present time even though there are also cases of overgrazing. Before there is an endeavour to increase the number of cattle a better distribution of cattle over the

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[8] _Ibid_, 11.

[9] _Ibid_, 26.

grazing area is needed, over grazed areas need to be regrassed and more watering places need to be made. Though these factors are improved by good range management, more winter feed has to be obtainable every year. At the present time the number of livestock is such that in any severe or long winter a large number of them must get by on less feed than they require.

When there is proper management of range land as previously suggested and when larger winter feed supplies can be expected even in the drier years, it is believed that the advocation of increasing the number of cattle would be fully justified. To advocate a general increase in the number of cattle before this has taken place, however, is likely in dry years to put the farmer in the position of being cattle poor whereas before he was wheat poor.

In order to overcome the difficulty of higher prices for farm products existing during the study of the 58 farms, all farm prices were adjusted to the 1939-48 level. After making these adjustments it was found that 56 per cent of all farm receipts came from cattle sales and 25 per cent came from crop sales. Since cattle prices were at their peak at the time of the study it is believed that the findings would correspond fairly closely with this study if incomes could be adequately calculated. Since an income cost analysis is beyond the scope of this study, a further review will be made of the Dominion Government findings.

It was found in the government survey that "the above-average farms differed from the below average farms chiefly in having a higher proportion, 66 in comparison with 43 per cent of their receipts from

cattle sales."[10]

The average farm receipts were found to originate from the following sources, 25 per cent from crop sales, 56 per cent from cattle sales, 5 per cent from farm produce sales, 7 per cent from equipment sales and 7 per cent from all other sources. This latter category includes outside farm labour, previous crop sales and receipts from miscellaneous sources. The income from such receipts was $5,180. Thirteen hundred dollars came from crop sales, $2,970 from cattle sales, $230 from farm produce sales, $390 from equipment sales and $290 from other sources.

The above-average farms' total receipts were $5,900, of which $1,320 (or 22 per cent) were attributed to crop sales, $3,910 (or 66 per cent) to cattle sales, $80 (or 1 per cent) to farm produce sales, $240 (or 4 per cent) to equipment sales and $350 (or 7 per cent) from all other sales.

The receipts of the below-average farm totalled $4,450. These were made up of $1,280 (or 29 per cent) from crop sales, $2,040 (or 43 per cent) from cattle sales, $380 (or 9 per cent) from farm produce sales, $530 (or 12 per cent) from equipment sales, and $220 (or 7 per cent) from all other sources.[11]

Farm receipts were further broken down to indicate the components of crop sales, livestock sales and farm produce sales. The average farm had 76 per cent of its crop receipts from wheat and rye sales, 17 per

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[10] Ibid, 11.

[11] Ibid, 11.

cent from oats and 7 per cent from all other sources including barley, hay and grass seed sales. The above-average farm crop receipts were made up of 70 per cent from wheat and rye sales, 19 per cent from oats and 11 per cent from all other sources. The below-average farm crop receipts were made up of 83 per cent from wheat and rye, 15 per cent from oats and 2 per cent from other sources.[12]

In considering all grain receipts it must be recognized here as it was in the government study that such receipts tend to be made lower than their actual value because a large amount is marketed through livestock feeding.

One particularly interesting feature of the farm receipt breakdown is the amount of oats that was sold. The average acreage in oats was about one third that of wheat. Although the acreage in barley was approximately one half that of oats, very little was sold. With such small barley sales it is quite probable that many farms had no sales. This would tend to indicate that more barley could probably be used in the livestock program. Though barley yields tend to be light over a large part of the area, more consideration of cultural practices and suitable varieties might help to increase the quantity of this grain available for livestock maintenance.

The livestock receipts on the 58 farm study were further broken down into two classes under the headings of cattle and other livestock. There was very little difference between the receipts received on the average, above-average and below-average farms. In the first case, for cattle it was 97 per cent, in the second, 98 per cent and in the last

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[12] Ibid, 12.

case, 96 per cent. Other livestock included hogs, sheep, poultry and horse sales. For such sales the average farm received 3 per cent of its total farm livestock receipts, the above-average 2 per cent and the below-average 4 per cent.[13]

Farm produce sales came largely from the sales of cream and eggs. On the average farm,cream accounted for 81 per cent of the farm produce sales, on the above-average farm for 67 per cent and on the below-average farm, 84 per cent. It is rather surprising to find that the above average farm received more farm receipts from eggs than did the average farm. The average farm received 16 per cent of its farm produce receipts from eggs, the above-average, 24 per cent, and the below-average, 14 per cent. These figures indicate that the previous contention that chickens can be profitably increased in numbers is economically sound.

The previously given farm receipts included sales only, the moneys received from P.F.A.A. payments, net increases in livestock feeds and supplies were not added. After allowing for these the gross farm receipts for the average farm were $7,290, while those for the above-average farm were $9,990, and for the below-average farm, $4,920. The book profits on cattle due to the abnormal prices after World War II, were calculated on a per head basis giving a profit on the average farm of $2,440, on the above-average farm of $3,550 and on the below-average farm of $1,320. These profits were then deducted to give the final total receipts for the three categories. Farm expenses of $2,610, $3,400 and

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[13] Ibid, 12.

$2,170 respectively were subsequently deducted for the three farm types. These deductions left the income of the average farm at $2,240, that of the above-average farm at $3,040 and that of the below-average farm at $1,430. From the farm incomes $1,440 was deducted for all farm types as living expenses. These living expenses were based on monthly wage rates without board paid in Alberta for May and August of 1950 and January of 1951. After such expenses had been deducted from the farm income the average farm showed a profit of $800, the above-average farm a profit of $1,600 and the below-average farm a loss of $10.[14]

By using P.F.A.A. records and fragmentary data obtained from the Alberta Government, and other sources, similar incomes were arrived at in the government study which appeared to support the findings of the 58 farm study. In the 58 farm study, quite by chance according to the author of the booklet in which the findings are published, 29 farms were found to be above average and 29 farms below average. Obtaining such a balance would tend to indicate that the one restriction of more than 10 head of cattle made in taking the sample seemed to alter what might be expected in an average sample.

The conclusions drawn from the Dominion Government study were that

> in terms of the surplus which is the amount of funds available for debt servicing and capital accumulation the below average or half of the sampled farms in the 1950-51 crop year were approximately marginal in efficiency, and the above average or remaining half of the sampled farms supra-marginal in efficiency. Since the sample is drawn from a population of farms which excludes small cattle enterprises and since it is reasonable to infer that small cattle enterprises are combined with small

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[14] *Ibid*, 14.

> cropland enterprises it may be concluded that in the project area and ultimately in the Special Areas somewhat more than half of the farms are marginal or sub-marginal in efficiency.[15]

4. Evaluation of the Dominion Government Agricultural Economics Survey

The sweeping conclusion that half of the farms of the Special Areas are marginal or sub-marginal in efficiency is rather startling at first glance. It must be remembered, however, that the conclusions reached were based on the long term rather than the short term profits received from land use.

If the history of the size of farms is reviewed it is found that many farms shortly after settlement contained only a quarter section of land. Later in the 1920's the average farm was probably about one half section. In 1936 the Stewart and Porter report findings indicated that at least three quarters of the better land was necessary for the profitable raising of wheat.[16] The present minimum size of farm required to result in an adequate living standard is not precisely known but it is thought by Special Areas officials that about one section of cultivated land and one section of lease land are necessary.[17] The findings in this study tend to indicate that the average farm maintaining a total of 454 acres of cultivated land and 1,273 acres of other land is probably very close to the position of the marginal farm. This then would indicate that slightly more than two and one half sections are now necessary.

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[15] Ibid, 13.

[16] A. Stewart and W. D. Porter, Land Use Classification in the Special Areas of Alberta and in Rosenheim and Acadia Valley, Dominion of Canada, Department of Agriculture, Publication No.731, Technical Bulletin No.39, (Ottawa, 1942), 33.

[17] Personal interview with Special Areas Board officials, June, 1956.

The Dominion Government study places the average farm at 2,422 acres, the above-average farm at 3,330 acres and the below-average farm at 1,522 acres of land. The size of the below-average farm in the government report is, therefore, only slightly below that of the average farm in this study. Though these figures from the two studies are not entirely comparable they do indicate that the requirements of size of the economic unit is steadily growing larger. When the requirements will stop expanding depends on the relationships of prices, living standards and other factors in Canada, and particularly in western Canada. If the size of farm steadily grows as it has in the past it seems quite likely that the figures given for the average size of farm in the government study may be fully realized in the next fifteen or twenty years.

Earlier in this study it was found that approximately 35 per cent of the farms contain less than 759 acres. When larger farm units were considered 49 per cent of the farms were found to have less than 2,239 acres. This figure is surprisingly close to the average of 2,422 given by the government survey. As might be expected from the area in which the government study was made the average farm size was excessively large. The decrease in average size of farm would tend to increase the number of farms which the study indicated were marginal or submarginal.

A large factor in estimating the number of submarginal or marginal farms in such an area is the grain yield. In the government study the average of 8.8 bushels per acre was used and 2 bushels were deducted for seed and loss in cleaning seed. The evidence in this study shows that the average wheat yield was 10.9 bushels for the 1925-1955 period. The allowance of 2 bushels for seed is also excessive for this region where

seeding rate is one bushel or a bushel and a peck. Because of the dry conditions the amount of trash that must be cleaned out of seed wheat is usually small. A bushel and a half should cover the seed allowance. This would make the net yield 9.4 bushels compared to 6.8 as given in the government study. The difference in yield increases the value of the wheat crop by 38 per cent and raises the income of the average farm by $494 and the below-average or submarginal farm by $484.

The government study varies widely from census figures on the average size of farms. It also tends to over-emphasize the number of horses kept, and to under-estimate the number of acres of wheat grown. It greatly under-estimated grain yields and it did not take into consideration that the farms in the northern area keep slightly more milk cows, chickens and swine than in the study area. All of these factors tend to give the conclusions drawn from the government study a rather shaky foundation.

The conclusion drawn from this study indicates that at least 35 per cent of the farms are probably submarginal owing to their small size. To go farther than this without a fuller investigation of the number of farms which have more than the average number of swine, chickens, dairy cows, and which have incomes from other sources, would tend to increase the number of possible errors.

The last five years of increased grain yields and comparatively good cattle prices, together with larger supplies of livestock fodder tend to mask the marginal and submarginal farms at the present time. These short term effects must be disregarded in any long range planning of land policy. Whether there are 35 or 50 per cent of the farms in the Special Areas which could be classed as marginal or submarginal over the

long run prevailing conditions cannot be determined at the present time from the investigations made so far. It seems safe to say in the light of the information obtained in this study, however, that there are at least 35 per cent of the farms that can be classed as marginal or submarginal when long term conditions are used as criteria of the economic farm unit.

CHAPTER XIV

INCOME AND EXPENDITURES OF THE SPECIAL AREAS BOARD

The income of the Special Areas Board is derived largely from taxation of privately owned land, crop shares from cultivation permits and leases on public and school lands, rental fees from grazing leases and permits on public and school lands, community pastures and the various grants received from the Provincial Government.

Under conditions of low yields and prices, the land under cultivation lease or permit contributes less than the taxed land towards the maintenance and extension of public services. In years of comparatively good grain prices and especially when the grain yield is above the normal average the crop share basis of payment may be greater per acre than the average tax per acre on similar land. While the crop share basis of payment for services has been a blessing in many ways to a large group of farm operators, it has also tended to make the farmers who own their land often pay a greater share of the cost of public services in all but years of higher grain yields.

The income from taxes on privately owned land has been fairly consistent over the last fifteen years. The general trend of such taxes has, however, been to increase slightly over the 1940 tax level. In 1946 the amount collected from taxes came to $365,249. In 1949 the amount collected had increased to $470,865, and it gradually dropped to $427,130 in 1953 and to $355,679 in 1954.[1]

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[1] See Appendix C, Table XL, pages 263-4.

The receipts from cultivation leases and permits meanwhile amounted to $147,827 in 1946, reached a peak of $393,349 in 1953 and then dropped to $241,753 in 1954. A similar sudden increase in the receipts from community pastures is shown in 1952 with a further rise in 1953 and a drop in 1954.

The expenditures of the Special Areas Board indicate that very little of the money collected from charges against land was used to improve the agricultural sources from which the largest part of the receipts are derived. Though the total expenditure for the Special Areas has been over $1,000,000 since 1952, the only expenditure of any considerable size was on community pastures. This amounted to $30,148 in 1952 and decreased to $20,400 in 1954. Grass seed expenditure amounted to $1,929 in 1951; it decreased to $884 in 1952 and rose again to $2,403 in 1954. In the control of pests and weeds $4,722 was spent in 1951, $1,169 in 1952, $176 in 1953 and $555 in 1954.[2] According to the Department of Municipal Affairs the greatest amount of this last expenditure was spent on pest control and very little on weed control.

While very little has been spent on the improvement of agricultural conditions a great deal has been spent on road construction and maintenance since 1950. In 1951, $285,456 was spent on roads; this was increased in 1952 to $540,963, and then decreased slightly to $530,365 in 1953 and to $506,100 in 1954.

Though these figures on expenditures only show some of the more noticeable features of the accounts, they do indicate that very little has been spent on endeavouring to improve the agricultural conditions.

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[2] See Appendix C, Table XXXIX, pages 261-2.

A comparison of the expenditures of municipalities and counties with those of the Special Areas is practically impossible owing to the different components which have been included in the various expenditures. The expenditures which can be compared have little relationship to this study. Some comparisons of receipts, expenditures on roads and weed and pest control of various improvements districts are, however, possible. It should be noted that such comparisons depend largely on the years considered and on the improvement districts selected. In the following comparison the 1951 and 1954 expenditures are compared. The 1951 figures are used because they correspond with the data most extensively used throughout the rest of the study; the 1954 figures are considered since these are the latest available from the Department of Municipal Affairs. In comparing improvement districts an endeavour was made to select one with high general tax receipts and one with comparatively low tax receipts.

In 1951 the Special Areas received $1,068,781 in receipts and spent $285,456 (27 per cent) on roads and $4,722 (less than 1 per cent) on pest and weed control.[3] It must be noted that this latter figure was to a large extent spent on the control of rats. Improvement District Number 11 meanwhile received $116,184 and spent $26,348 (23 per cent) on roads and $1,533 (1 per cent) on pests and weeds. Improvement District Number 102 received $63,521 and spent $27,862 (42 per cent) on roads and $1,905 (3 per cent) on pest and weed control.

In 1954 the comparison of road expenditures to total receipts is even more striking. The Special Areas had total receipts of $1,110,488 and spent $704,728[3] (63 per cent) on roads and $961 (less than

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[3] Annual Report of the Department of Municipal Affairs of the Province of Alberta for the year 1951, (Edmonton, 1952). And the same for the year 1954. There are discrepancies between these figures and

1 per cent) on pest and weed control. Improvement District Number 11 received $134,084 and spent $47,677 (36 per cent) on roads and $345 (less than 1 per cent) on pests and weeds. Improvement District Number 102 received $65,693 and spent $11,749 (18 per cent) on roads and $2,159 (3 per cent) on pest and weed control.

These expenditures seem to indicate that other areas spend proportionally less money on roads and more on pest and weed control than do the Special Areas. The broad powers given to the Special Areas Board make it possible for it to see that the available money is spent where it will do the most good. Although the reason given for the Special Areas Act is the improvement of the agricultural situation, there is little indication that available funds are used to any great extent in doing this.

The Special Areas Board, however, has been successful in converting a great deal of land from cultivated land to grazing or lease land. Although this conversion has probably taken place more rapidly than it would have under Municipal Government there have been only small changes made during the last few years. Since over half of the income comes from the taxes on the 30 per cent of land held by public ownership and from the crop shares of cultivation leases and permits, the Special Areas Board cannot afford to convert a great deal more land to grazing purposes if it desires to maintain its present level of spending without calling on the Provincial Government for special financial assistance as provided for in the Special Areas Act.

It was previously seen that the Special Areas have several financial concessions with regard to the retention of money received for cultivation and grazing permits. This has greatly increased the receipts

of the Special Areas Board. In the light of the expenditures of the two improvement districts previously referred to it appears that the main result of such concessions may be increased expenditures on road construction rather than on those things which would contribute towards increasing the stability of farm income.

It must be conceded that the Special Areas Board has to a large extent been able "to promote and encourage the development and conservation of natural resources" and to the extent that it has increased cattle production and decreased wheat production it probably has "promoted greater diversity and stability of income" as mentioned in the reasons for the Special Areas Act. In carrying out these measures many factors mentioned in previous chapters, which would have greatly assisted in the achieving of a greater degree of stability, have been overlooked. It is possible that a great deal of the agricultural stability of farms would have been accomplished without the aid of the Special Areas Act. It is likely, however, that greater privation and hardships would have had to be borne by the farmers on such land during the years of excessive drouth, low grain yields and low prices for farm produce.

The gradual decrease in size of the Special Areas, through parts being joined to other municipalities or improvement districts, suggests that the advantages today of being within the boundaries of the Special Areas are not so great as the desire to regain privileges which are enjoyed under local self-government.

PART D - CONCLUSIONS AND RECOMMENDATIONS

CHAPTER XV

CONCLUSIONS

1. Farm Size

Large numbers of farms in the Special Areas are too small to be considered profitable farm units either as grain farms or as grain and livestock farms under long term expectations of climatic and price conditions. The increased precipitation and higher yields of both grain and forage crops over the last six years have tended to cover up the inadequacy of all but the smallest farms. It appears that at least 35 per cent of the farm may be considered marginal or submarginal under long term conditions owing to their small size. The problem of increasing the size of farm in the Special Areas is more difficult than elsewhere because of the small amount of widely scattered privately owned land and because the remaining 70 per cent is controlled by the government and not available for purchasing. Most of the land available for grazing or cultivation purposes has already been leased, and so only an unexpected exodus of farmers from the area could create any significant change in the size of farms. Although other studies indicate that up to 50 per cent of the farms may be

marginal or submarginal under normal conditions of precipitation, yields and prices, the evidence for this is not too conclusive because of the variation in farm conditions and the difference which organization and management make. It appears that the inadequacy of farm size is largely a shortage of grazing rather than cultivated land.

2. Differences in Regional Location

In spite of average farm size being for the most part smaller in the northern area, the average farm there compares favourably in value with many larger farm units farther south. This is partly due to the small amount of dark brown soil present in this region and also to the increased diversification of the farm enterprises. There tends to be a slightly

greater concentration on hogs, dairy cows and chickens and as a consequence more oats and barley tend to be grown.

This tendency for greater diversification would not necessarily increase the incomes of the farms farther south. There are, however, indications that a greater degree of poultry raising would prove a valuable asset to many farms in the Special Areas. The farmers in the northern area are handicapped in expanding the size of farm by the shortage of grazing area that can be leased.

The south western part of the area has the largest and most highly valued farm units. The greater value of the farm is due mostly to the number of cattle. This is made possible by the larger farm unit containing a large acreage of grazing land. The inclusion of this area in any economic survey of farms tends to distort the averages that may be calculated for the whole of the Special Areas.

The east central part of the Special Areas appears to be the core of the drouth area. Although the precipitation is not a great deal lower than in surrounding regions it is sufficiently low to result in average wheat yields over a 30 year period being under 9 bushels per acre. In most years, therefore, this area receives assistance from the P.F.A.A. Since this area is usually an assistance area, and since there is little likelihood of it being otherwise as far as wheat production is concerned, measures should be taken to rehabilitate farmers of this region to better farming areas wherever possible. Legislation needs to be passed which will curtail wheat production and eventually prohibit it in all areas which in the average year qualify for P.F.A.A. assistance. Such legislation to be effective in the proper utilization of land must give provincial authorities the power to enforce if necessary the proper use

of land so that it will not be detrimental to the rest of the country's economy.

3. Progress of Agricultural Adjustment

The most significant feature that is noted in a study of land use in the Special Areas is the failure of the Special Areas Board to attack and deal with agricultural problems. The drouth of the 1930's forced many people out of the area. The land policy of converting land held by title to cultivation lease and grazing lease has been well carried out. The increased prices during the war years tended to improve the farming conditions and mask the agricultural problems. The increased moisture conditions resulting in better wheat yields and grass cover during the last six years have helped to continue this masking of the agricultural problems of the area. When more normal conditions return, there is every indication that the Special Areas will emerge with many of the same problems it faced in the 1930's.

4. Occupancy of Land

When little land can be purchased and the duration of leases is not such as to satisfy the desires of the individual farm operators, the security and feeling of permanency are greatly impaired. Such an artificial condition would not be so serious if it were not for the fact that the farm operator to be successful must be able to adjust the scale of his operations to meet the changes that occur throughout the economy with the passing years. In no area is this so important as in a region largely made up of marginal lands.

5. Cultural Practices

In any region that is largely made up of marginal and submarginal lands, a necessary prerequisite to proper land use, is some authoritative power to see that all land whether privately owned or publicly owned is utilized in such a way that it will not unduly deteriorate with use or from cultural practices.

There has been little endeavour on the part of the Special Areas Board to record, foster or improve those cultural practices which would conserve and possibly increase the yields of grain obtainable. Insufficient study has been made of the crop rotation practices in the various regions of the Special Areas. There is evidence that operators in some regions though summerfallowing less often receive yields comparable with those obtained by operators who summerfallow land every other year.

6. Crop Yields

There is some evidence that higher wheat yields can be obtained by careful selection of varieties and proper cultural practices. The significantly higher yields of wheat obtained by most registered seed growers are such that the reasons causing such increases should be carefully studied.

It appears that though sufficient oats is grown on most farms, there is seldom a surplus of barley. This probable deficiency in barley pertains more to the northern sections of the Special Areas than it does elsewhere. Whether yields of barley in this region can be increased through selection of more suitable varieties and through better cultural practices is not known, however, since the present amount of barley on the

farms appear to limit the diversification that can take place, a more careful investigation is necessary.

7. Feed Supplies

Though efforts have been made on the part of the Board to increase the number of cattle in the Special Areas, sufficient study, consideration and direction have not been given to the insuring of adequate winter feed supplies. Until such has been provided for there is little justification for increasing the number of cattle. Several means are available to reach such objectives. Increased use of land that can be irrigated, the seeding of all natural hay meadows with suitable grasses so that hay yields may be increased, greater use of oats for hay purposes rather than mixed grains, increasing acreages in alfalfa and clover especially in the northern regions, whenever moisture conditions appear to be favourable and the increased use of straw saving devices all appear to offer possibilities for overcoming the difficulties of winter feed shortages.

8. Grazing Land

Though considerable time and effort have been spent by Board members to get recently cultivated land back into grass, little has been done to increase the grass stands on leased lands which have thin stands, either as a result of being cultivated many years ago or as a result of constant over grazing.

A greater number of watering places for cattle must be provided if the grazing land is to be kept in the best possible condition and at

the same time carry the maximum number of cattle which can be safely grazed.

Though comparatively large amounts of money have been spent on road maintenance and construction each year, only insignificant amounts have been spent on grass seed and particularly on weed control. Though the Board members and many farmers are concerned about the inroads the Western snowberry is making on much of the grazing land, little has been done towards using the known methods of control and eradication. Unless a larger part of available funds is spent on those things which increase and maintain farm income, a large part of the expenditures may be wasted.

A large part of the receipts of the Special Areas Board comes from levies on land, and the major portion of this is spent on roads, schools and hospital services. Only an insignificant expenditure goes toward the improvement of agricultural conditions. Unless larger amounts are spent on improving the land and its productivity, which are the main sources of income, the receipts eventually are likely to be diminished.

9. Grazing Rates and Forage Value

In the Special Areas the forage value of 8 per cent used in calculating the grazing rental charges is entirely unjustifiable when other similar areas in the province are on a 12½ per cent basis. This rate not only indicates unjustified discrimination but also tends to prohibit natural adjustments which should take place in a problem area.

10. Reasons for Lack of Proper Adjustment

The Special Areas Board, though under the Department of Municipal Affairs, is given authority to design for the most part its own

regulations and policies. Because it is responsible to the Department of Municipal Affairs, however, it is influenced by political pressures which would not occur under local autonomy.

Though the Special Areas have the services of a District Agriculturalist, his field of activity is limited since he has no part in determining the regulations and policies set up by the Board to deal with agricultural problems. In order that greater attention be given to such problems and to see that full use is made of agricultural knowledge and that some agricultural research is carried out with respect to improving farm practices and conditions, it appears necessary that greater direction be given by trained agriculturalists.

The Special Areas legislation has undoubtedly prevented large tracts of marginal and submarginal lands, which are most suited for grazing, from being broken up and put into crop production. At the same time, however, it has not prevented the breaking up of such land that is under private ownership. The greatest drawbacks to the legislation have been that it has not brought about the disappearance of marginal and submarginal farms, and at the same time it has perpetuated measures originally intended to alleviate the drouth conditions prevailing at the time.

In the final analysis of the problems of land use in the Special Areas it seems probable that the desirable adjustment to economic farm units will never be fully realized while under a system where the opportunity to buy land or to lease land for any number of years on a competitive basis, is strictly curtailed.

CHAPTER XVI

RECOMMENDATIONS

1. Recommendations for Short Run Adjustments

1.1 The appointment of two additional members of the Special Areas Board who are trained agriculturalists. It would be the duty of these Board members to see that agricultural problems within the area get their due attention. Such appointees would be required to work with, but be entirely separate from, the District Agriculturalist.

1.2 Legislative provision for a greater part to be played by the Provincial Department of Agriculture in dealing with strictly agricultural problems.

1.3 Immediate steps should be taken to increase feed supplies by the various means available for maintenance of livestock during the winter months.

1.4 A greater degree of range management by the Special Areas Board to insure that the grazing areas are utilized to the fullest without damage to specific areas.

1.5 In all cases where it appears likely that farmers have made inadequate provision for annual winter supplies of feed, increasing the size of basic herds should be discouraged .

1.6 Providing winter feed requirements are available, farmers with understocked leases should be required to maintain sufficient cattle to justify the continuance of the grazing lease.

1.7 Those operators having overstocked leases should be forced to reduce their livestock to the number which will permit at least a 25 per cent carryover of grass.

1.8 A greater amount of regrassing should take place on all over grazed prairie whenever conditions are suitable.

1.9 Legislative provision for regrassing grants by which the Provincial Treasury bears part of the cost of such programs.

1.10 Penalizing all grazing lease holders who have allowed land to be over grazed by enforcing the carrying capacity regulations until such time as corrective measures have been taken to allow grass cover to regain its original productivity.

1.11 Immediate steps be taken which would foster the development by farmers of increased watering places wherever possible through the guiding and storage of spring run-off water into the many natural depressions that are present on grazing land.

1.12 Immediate steps should be taken by the Special Areas Board to control the Western snowberry and finally eradicate it from grazing leases on public land. Authorities in charge of weed control must see that such

corrective measures are undertaken by both the Board and the operators of privately owned grazing land.

1.13 The creation of a community pasture in the north central part of the Special Areas upon the expiration of present grazing leases in that region. Provision should also be made for the withholding of renewal of certain leases in areas farther south so that those operators now leasing the area to be occupied by the community pasture may be compensated.

1.14 The yearly reporting of all livestock in the Special Areas should be required of all operators so that investigation into grazing problems can be dealt with in such a way that the fullest use is made of leased land without damage to the vegetative cover.

1.15 A special study of the small farms needs to be made by Special Areas officials. The purpose of such a study should be to find ways and means whereby the continuance of small uneconomic farm units will be gradually eliminated.

1.16 A greater amount of study needs to be given to the various grain types and varieties together with the cultivation and rotational practices which contribute towards higher farm incomes, and at the same time provide the utmost protection to the soil in the various regions of the Special Areas.

1.17 Increased study of the contributions of the various types of livestock and poultry in the various regions of the Special Areas should be made.

1.18 The Special Areas Board must encourage and foster experimentation and research into all agricultural problems which contribute towards increased farm incomes. When measures have been found through such investigation or through observation of the practices carried out by successful farmers, which will alleviate these agricultural problems, steps must be taken to encourage the use of them by all farm operators to whom they pertain.

1.19 Greater consideration should be given to the restricting of renewals of cultivation leases in all marginal and submarginal areas in which the farm operators have most persistently been the recipients of P.F.A.A. assistance.

1.20 A larger part of the total receipts received by the Special Areas Board must be set aside for the improvement of agricultural conditions.

2. Recommendations for Long Run Adjustment

2.1 Legislation must be enacted which would give provincial agricultural authorities the power to enforce the proper use of all marginal or submarginal lands within the provincial boundaries. This legislation should also make it possible for such authorities to direct what cultural practices and procedures are acceptable on such land.

2.2 Further legislation must be passed with regard to land tenure on all public land being used for settlement. Farmers who live on marginal or submarginal public land anywhere in the province should be given the option of buying or leasing such land as they desire on a competitive

basis. Leases should be of sufficient length to satisfy the desire of the operator during his lifetime.

It must be recognized that such legislation will only be effective if strict enforcement of the provisions mentioned in the first legislation is diligently carried out. If these two recommendations were acted upon and applied to all marginal or submarginal land in Alberta, the need for the Special Areas as such would no longer exist and they could be dispensed with. Local self-government could be restored and land would be put to its fullest use through direction and economic competition.

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Appendix A

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APPENDIX A

Maps and Statistical Data

Pertaining to the Location, Topography, Climate, Vegetation and Population of the Special Areas

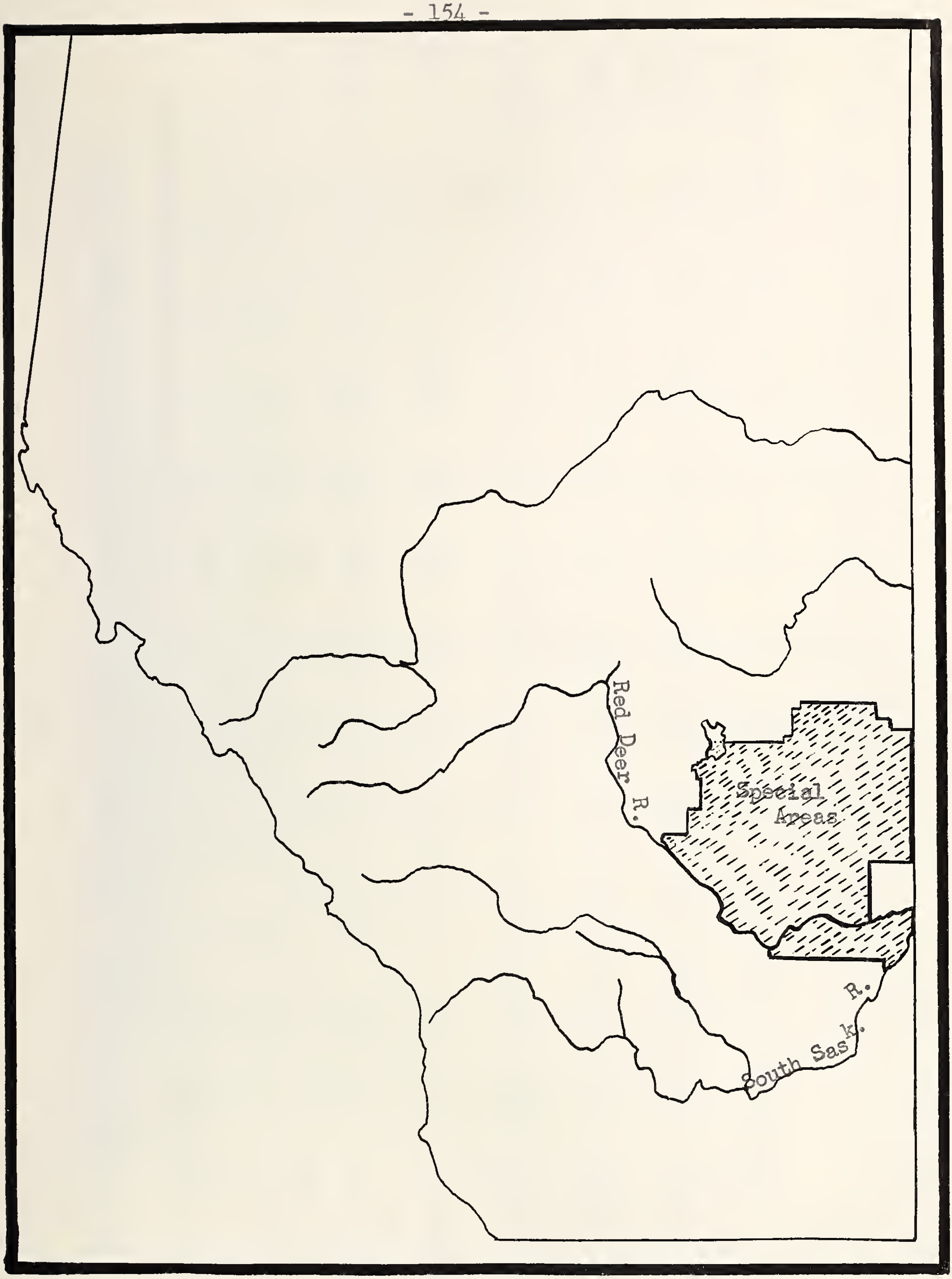

FIGURE 1

LOCATION OF SPECIAL AREAS OF ALBERTA, 1956*

*Compiled from present reference map of the Government of Alberta, Department of Municipal Affairs, Edmonton, 1956.

TABLE I

AVERAGE MONTHLY AND ANNUAL TEMPERATURES AND PRECIPITATION FOR POINTS IN THE SPECIAL AREAS AND ADJACENT STATIONS USING BASE PERIOD 1921-1950*

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Alsask	T	4.0	8.2	21.8	36.2	53.6	59.6	66.0	62.9	52.4	41.3	23.4	10.6	36.6(13)**
	P	0.65	0.41	0.87	1.00	1.74	1.88	1.99	1.11	1.03	0.97	0.76	0.59	13.00(19)
Wastina	T	2.8	5.8	19.7	38.2	50.8	57.7	64.4	60.6	51.0	40.3	22.2	9.0	35.2(28)
	P				0.63	1.23	2.44	2.06	1.45	1.02	0.71			(28)
Coronation	T				37.5	50.0	56.4	65.4	60.1	50.3	39.4			(24)
	P				.95	1.38	2.43	2.42	1.52	1.34	0.78			(25)
Hanna	T	7.7	10.4	21.5	39.1	51.7	60.2	64.4	61.0	51.2	40.8	24.9	14.9	35.3(28)
	P	0.45	0.51	0.57	0.81	1.41	2.58	2.20	1.34	0.93	0.68	0.54	0.43	12.45(28)
Naco	T	4.6	5.6	19.3	38.6	51.5	57.5	64.6	61.0	51.5	40.6	22.2	10.0	35.6(20)
	P	0.59	0.60	0.86	0.90	1.08	2.32	1.76	1.60	1.06	0.85	0.63	0.50	12.75(20)
Jenner	T	7.0	11.2	24.2	41.0	52.4	59.6	66.6	63.4	53.0	42.6	25.1	13.0	38.3(29)
	P	0.63	0.59	0.68	0.92	1.49	1.93	1.29	1.26	1.24	0.82	0.74	0.68	12.27(27)
Medicine	T	13.3	16.0	28.6	44.3	55.2	62.4	70.2	66.6	55.9	45.8	29.2	18.6	42.2(30)
Hat	P	0.72	0.68	0.82	0.99	1.53	2.28	1.38	1.39	1.51	0.72	0.71	0.82	13.55(30)
Empress	T				41.8	53.6	60.6	68.9	65.5	54.9	44.6			
	P				0.56	0.84	1.36	1.38	1.20	0.89	0.56			

[*] Department of Transport, Meteorological Division, Personal Communication to Mr. A. H. Laycock, University of Alberta, 1956.

[**] Figures in brackets indicate the number of years observed.

TABLE II

GREATEST RANGE ON RECORD BETWEEN MAXIMUM AND MINIMUM YEARLY PRECIPITATION AT ANY MAJOR STATION IN ALBERTA*

Medicine Hat

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1907													
T	8.1	19.6	26.4	38.4	48.5	61.6	67.0	63.9	56.2	51.8	37.3	25.0	40.7
P	0.75	0.25	0.51	0.30	0.65	1.69	0.92	0.62	1.07	0.00	0.01	0.15	6.86
1927													
T	16.3	15.6	32.8	42.3	49.6	62.8	68.5	65.2	55.3	50.4	19.7	0.7	39.9
P	0.16	0.49	1.01	1.60	5.30	1.31	5.43	5.80	1.65	0.70	1.26	0.57	25.28

*Department of Transport, Meteorological Division, Personal Communication to Mr. A. H. Laycock, University of Alberta, 1956.

T. Mean temperature in degrees.

P. Total precipitation in inches.

TABLE III

FROST DATA FOR STATIONS IN THE SPECIAL AREAS AND NEARBY POINTS

Station	Number of Years	Average Frost Free Record (days)	Last Frost (Spring)			First Frost (Fall)			Frost Free Season--Extremes on Record					
									Longest			Shortest		
			Average	Earliest	Latest	Average	Earliest	Latest	Last (Spring)	First (Fall)	Number of Days	Last (Spring)	First (Fall)	Number of Days
Hanna	25	103	May 25	Apr. 27	June 24	Sept. 5	Aug. 6	Oct. 5	Apr. 27	Sept. 23	149	June 24	Aug. 31	68
Wastina	33	82	June 7	May 14	July 12	Aug. 28	July 16	Oct. 5	June 3	Oct. 5	124	June 7	July 16	39
Naco	32	104	May 13	May 7	June 25	Sept. 12	Aug. 10	Oct. 13	May 15	Oct. 13	151	June 16	Aug. 23	68
Berry Creek	3	103	May 25	May 4	June 14	Sept. 5	Aug. 25	Sept. 15	--	--		--	--	--
Jenner	32	104	May 31	May 7	June 25	Sept. 12	Aug. 10	Oct. 13	May 15	Oct. 13	151	June 16	Aug. 23	68
Empress	12	113	May 25	May 9	June 8	Sept. 15	Sept. 2	Sept. 30	May 9	Sept. 30	144	June 8	Sept. 2	86
Alsask	21	96	June 1	May 7	June 24	Sept. 5	Aug. 4	Sept. 29	May 19	Sept. 29	133	June 11	Aug. 4	54
Medicine Hat	55	126	May 15	Apr. 26	June 6	Sept. 18	Aug. 27	Oct. 19	May 12	Oct. 11	152	May 30	Sept. 5	98
Coronation	24	94	June 1	May 7	July 12	Sept. 3	July 24	Sept. 24	May 10	Sept. 24	137	July 10	July 24	14

TABLE IV

PRINCIPAL PLANT SPECIES OCCURRING ON THE SHORT GRASS PRAIRIE AT OR NEAR THE MANYBERRIES EXPERIMENTAL STATION*

Family	Scientific Name	Common Name
	Grasses and Grass-like Plants	
Poaceae	Agropyron dasystachyum (Hook.) Scribn.	Northern wheat grass
"	Agropyron smithii Rydb.	Western wheat grass
"	Bouteloua gracilis (H.B.K.) Lag.	Blue grama grass
"	Calamagrostis montanensis Scribn.	Plains reed grass
"	Deschampsia caespitosa (L.) Beauv.	Tufted hair grass
"	Distichlis stricta (Torr.) Rydb.	Alkali grass
"	Hordeum jubatum L.	Wild barley
"	Koeleria cristata Pers.	Junegrass
"	Muhlenbergia cuspidata (Torr.)Rydb.	Prairie muhlenbergia
"	Muhlenbergia squarrosa (Trin.)Rydb.	Mat muhlenbergia
"	Poa canbyi (Scribn.) Piper	Canby's blue grass
Poaceae	Poa secunda Presl.	Sandberg's blue grass
"	Puccinellia nuttalliana (Schultes) Hitch.	Nuttall's alkali grass
"	Spartina gracilis Trin.	Alkali cord grass
"	Stipa comata Trin. & Rup.	Common spear grass
"	Stipa viridula Trin.	Green spear grass

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*S. E. Clarke, E. W. Tisdale and N. A. Skoglund, The Effects of Climate and Grazing Practices on Short-Grass Prairie Vegetation in Southern Alberta and Southwestern Saskatchewan, Dominion Department of Agriculture, Publication No.747, Technical Bulletin No.46, (Ottawa, 1947), 13-14.

TABLE IV (continued)

Family	Scientific Name	Common Name
Cyperaceae	Carex eleocharis Bailey	Involute-leave sedge
"	Carex filifolia Nutt.	Niggerwool
"	Eleocharis palustris (L.) R. & S.	Spike rush
Juncaceae	Juncus ater Rydb.	Baltic rush
Liliaceae	Zygadenus gramineus Rydb.	Death camas
	Broad-leaved Herbaceous Species (Forbes)	
Polygonaceae	Eriogonum flavum Nutt.	Yellow eriogonum
Corrigiolaceae	Paronychia sessiliflora Nutt.	Whitlow wort
Leguminosae	Cnemidophacos pectinatus (Hook.) Rydb.	Narrow-leaved vetch
"	Diholcos bisulcatus (Hook.) Rydb.	Two-grooved vetch
"	Orophaca caespitosa (Nutt.) Britton	Dwarf vetch
"	Oxytropis gracilis (A.Nels.) K. Schum.	Yellow loco
"	Thermopsis rhombifolia (Nutt.) Richards	Golden bean
Malvaceae	Sphaeralcea coccinea (Nutt.) Rydb.	Scartel mallow
Cactaceae	Opuntia polyacantha Haw.	Common cactus
Polemoniaceae	Phlox hoodh Richards	Dwarf phlox
Compositae	Antennaria microphylla Rydb.	Dwarf everlasting
"	Artemisia frigida Willd.	Pasture sage
"	Chrysopsis villosa (Pursh) Nutt.	Golden aster

TABLE IV (concluded)

Family	Scientific Name	Common Name
Compositae	Gutierrezia diversifolia Greene	Broom weed
"	Solidago missouriensis Nutt.	Dwarf goldenrod
	Shrubs and Shrubby Species	
Salicaceae	Salix interior Rowlee (and other species of Salix)	Sandbar willow
Chenopodiaceae	Atriplex nuttallii S. Wats.	Salt sage
"	Eurotia lanata (Pursh) Moq.	Winter fat
Rosaceae	Rosa macounii Greene (?)	Wild rose
Caprifoliaceae	Symphoricarpos occidentalis Hook.	Snowberry
Compositae	Artemisia cana Pursh	Sagebrush
"	Artemisia gnaphalodes Nutt.	Dwarf sagebrush
"	Artemisia longifolia Nutt.	Long-leaved sage
"	Chrysothamnus frigidus Greene	Rabbit brush
	Pteridophytes	
Selaginellaceae	Selaginella densa Rydb.	Little clubmoss

TABLE V

AVERAGE DENSITY OF PRINCIPAL PLANT SPECIES*

Name of Species	Density in Per Cent	Proportion of Total Cover in Per Cent
Bouteloua gracilis	4.00	37.8
Agropyron smithii**	1.19	11.0
Stipa comata	2.23	20.6
Koeleria cristata	0.72	6.6
Poa secunda	0.36	3.3
Carex filifolia	0.23	2.1
Total Grasses and Sedges	8.82	81.4
Artemisia frigida	0.72	6.6
Phlox hoodh	0.56	5.2
Opuntia polyacantha	0.15	1.3
Sphaeralcea coccinea	0.06	0.6
Gutierrezia diversifolia	0.05	0.5
Total Forbs	1.54	4.2
Eurotia lanata	0.33	3.0
Artemisia cana	0.09	0.8
Atriplex nuttallii	0.06	0.6
Total Shrubby Species	0.48	4.4
Selaginella densa	11.88	...
Total (less Selaginella)	10.84	100.0

*S. E. Clarke, E. W. Tisdale and N. A. Skoglund, The Effects of Climate and Grazing Practices on Short-Grass Prairie Vegetation in Southern Alberta and Southwestern Saskatchewan, Dominion Department of Agriculture, Publication No.747, Technical Bulletin No.46, (Ottawa, 1947),15.

**Due to the difficulty of distinguishing between Agropyron smithii and A. dasystachyum in the leaf stage, and to their great similarity in habitat, growth development, forage yield, etc., all data for these two species have been grouped under the name A. smithii in this report.

TABLE VI

RURAL POPULATION OF THE SPECIAL AREAS BY TOWNSHIPS

T R	1901	1906	1911	1916	1921	1926	1931	1936	1941	1946	1951
19- 2pt.	--	--	--	8*	6*	--	--	3*	--	--	--
20- 1pt.	--	1*	2*	4*	6*	8*	10*	6*	8*	6*	8*
20- 2	--	--	--	81	106	86	115	94	89	64	63
20- 3pt.	--	--	--	--	--	--	1	--	--	--	--
20- 4pt.	--	--	--	24*	29*	22*	8*	9*	10*	6	3
20- 5pt.	--	--	--	10*	18*	16*	10*	8*	4*	--	--
20--6pt.	--	--	--	--	--	2*	--	--	--	--	--
20- 7pt.	--	--	7*	18*	28*	1*	1*	1*	1*	1	1
20- 8pt.	--	--	20*	52*	26*	7*	7*	5*	5*	4	4
20- 9pt.	--	--	54*	82*	70*	25*	32*	25*	16*	15	4
20-10pt.	--	--	33*	73*	61*	46*	58*	56*	50*	55	55*
21- 1pt.	--	--	--	27*	32*	13*	22*	13*	10*	16*	6*
21- 2	--	--	--	103	120	77	97	98	84	61	53
21- 3	--	--	--	--	--	--	--	--	1	1	--
21- 4	--	--	1	136	174	63	61	63	37	24	42
21- 5	--	--	3	44	96	71	80	81	62	80	72
21- 6	--	--	--	--	4	3	12	13	8	--	5

Does not include incorporated towns.

Dominion Bureau of Statistics, Department of Trade and Commerce, Census Population Data, (Ottawa, 1901 to 1951), passim.

* Figures adjusted according to present land area and according to personal information regarding 1951 population.

T. Township.

R. Range.

TABLE VI (continued)

RURAL POPULATION OF THE SPECIAL AREAS BY TOWNSHIPS

T R	1901	1906	1911	1916	1921	1926	1931	1936	1941	1946	1951
21- 7	--	--	4	10	8	3	5	3	3	10	5
21- 8	--	--	--	76	72	30	34	36	18	17	5
21- 9	--	--	37	127	59	49	41	29	38	48	29
21-10	--	--	16	43	78	28	28	31	25	22	22
21-11pt.	--	3	42*	66*	45*	2	2	6	5	4	4
21-12pt.	--	1*	2*	6*	6*	--	6	--	2*	--	--
22- 1	--	--	--	40	50	57	74	59	37	21	21
22- 2	--	--	2	101	191	163	170	154	129	109	93
22- 3pt.	--	--	4	--	--	--	3	4	4	5	10
22- 4	--	--	8	52	37	21	12	11	5	12	15
22- 5	--	--	10	33	27	36	34	21	11	4	4
22- 6	--	--	5	7	52	67	65	41	41	55	31
22- 7	--	--	--	101	121	92	82	59	55	25	48
22- 8	--	--	6	39	62	27	20	9	4	17	7
22- 9	--	--	6	4	16	8	16	20	10	3	1
22-10	--	--	28	47	45	3	10	8	2	--	4
22-11	--	--	87	82	91	15	23	16	11	19	7
22-12	--	9	66	98	292	95	84	77	56	25	34
22-13	1	6	53	142	96	26	5	12	8	13	2
22-14	--	5	10	26	26	14	5	3	2	1	--
23- 1pt.	--	--	13	37	19	5	13	20	6	6	--
23- 2pt.	--	--	5	56	61	26	43	32	13	13	1
23- 3pt.	--	--	--	--	5	1	--	2	--	--	--

TABLE VI (continued)

RURAL POPULATION OF THE SPECIAL AREAS BY TOWNSHIPS

T R	1901	1906	1911	1916	1921	1926	1931	1936	1941	1946	1951
23- 4	--	--	3	24	33	22	18	19	4	3	3
23- 5	--	--	--	18	--	--	16	5	8	3	1
23- 6	--	--	--	22	52	17	46	33	25	23	17
23- 7	--	--	23	16	43	15	20	14	10	14	30
23- 8	--	--	1	31	33	5	14	12	16	4	3
23- 9	--	--	4	59	67	44	66	38	36	18	7
23-10	--	--	35	64	88	30	20	15	12	6	3
23-11	--	--	44	64	66	18	39	20	12	4	6
23-12	--	--	74	106	140	67	65	45	62	31	27
23-13	--	10	39	107	68	55	22	24	16	12	31
23-14pt.	--	20	77	144	115	13	43	10	2	2	2
24- 4	--	--	5	31	60	23	24	20	18	15	16
24- 5	--	--	24	71	111	90	108	85	49	39	37
24- 6	--	--	1	56	86	79	94	64	27	53	27
24- 7	--	--	2	72	97	29	17	5	3	3	--
24- 8	--	--	27	28	95	47	44	14	14	3	15
24- 9	--	--	32	90	121	64	72	45	29	16	20
24-10	--	--	26	60	45	21	21	6	--	--	--
24-11	8	--	78	69	91	43	49	18	25	17	12
24-12	--	--	63	83	95	67	61	26	27	20	13
24-13	--	--	98	146	119	48	48	40	22	11	13
24-14pt.	3	5	68	153	107	46	50	46	23	15	11
24-15pt.	--	--	--	--	--	--	--	8	11	9	12

TABLE VI (continued)

RURAL POPULATION OF THE SPECIAL AREAS BY TOWNSHIPS

T R	1901	1906	1911	1916	1921	1926	1931	1936	1941	1946	1951
25- 4	--	--	4	74	120	81	104	74	67	46	47
25- 5	--	--	23	105	125	97	112	111	77	53	51
25- 6	--	--	37	51	85	92	95	82	56	52	47
25- 7	--	--	16	92	115	66	80	63	34	22	18
25- 8	--	--	26	73	96	59	43	22	10	6	4
25- 9	--	--	42	77	96	37	41	19	27	15	18
25-10	--	--	43	68	75	26	27	21	13	4	7
25-11	--	--	48	94	125	64	45	24	19	33	23
25-12	--	--	95	140	136	80	117	54	41	29	46
25-13	--	--	68	111	115	49	44	18	12	10	2
25-14	--	--	43	116	108	40	43	28	30	29	22
25-15pt.	7	--	6	61	76	45	46	28	21	14	20
25-16pt.	--	4	10	9	9	2	5	5	8	4	--
26- 4	--	--	20	134	167	116	104	70	72	71	63
26- 5	--	--	66	105	179	138	132	115	87	56	33
26- 6	--	--	50	107	119	82	74	57	33	26	22
26- 7	--	--	58	111	86	52	68	42	16	14	21
26- 8	--	--	45	66	89	68	89	50	19	11	9
26- 9	--	--	71	50	75	62	54	49	33	33	41
26-10	--	--	67	89	94	52	62	49	23	19	21
26-11	--	--	42	102	135	61	63	16	23	10	14
26-12	--	--	59	114	131	56	35	14	15	22	20
26-13	--	--	50	95	137	45	52	18	8	4	3

TABLE VI (continued)

RURAL POPULATION OF THE SPECIAL AREAS BY TOWNSHIPS

T R	1901	1906	1911	1916	1921	1926	1931	1936	1941	1946	1951
26-14	--	--	73	115	107	73	57	29	21	12	19
26-15	7	--	70	99	100	57	58	38	26	18	17
26-16pt.	5	--	45	68	101	62	33	24	26	17	14
26-17pt.	--	--	12	23	30	28	23	10	5	3	2
27- 1	--	--	59	86	99	77	78	58	43	28	25
27- 2	--	--	3	108	124	81	72	50	36	30	32
27- 3	--	--	20	109	179	130	114	101	104	72	58
27- 4	--	--	44	103	108	136	137	77	52	77	70
27- 5	--	--	40	137	123	129	134	98	96	70	71
27- 6	--	--	42	92	98	48	67	39	25	29	24
27- 7	--	--	30	102	121	82	74	50	40	36	37
27- 8	--	--	80	66	138	101	123	80	26	25	17
27- 9	--	--	85	73	124	92	86	43	36	23	27
27-10	--	--	58	96	150	65	53	33	22	15	13
27-11	--	--	86	56	90	65	44	19	8	8	8
27-12	--	--	74	98	149	137	184	106	97	86	84
27-13	--	--	59	69	171	48	34	22	16	15	5
27-14	--	--	88	122	159	59	62	27	24	19	17
27-15	--	--	123	138	175	99	100	38	25	20	16
27-16	--	--	41	79	52	34	32	33	32	24	15
27-17pt.	3	15	16	20	24	29	26	45	45	55	68
27-18pt.	--	6	17	39	29	27	20*	15*	10*	8*	6*
28- 1	--	--	130	160	198	190	151	104	89	152	56

TABLE VI (continued)

RURAL POPULATION OF THE SPECIAL AREAS BY TOWNSHIPS

T	R	1901	1906	1911	1916	1921	1926	1931	1936	1941	1946	1951
28-	2	--	--	49	195	291	226	246	204	113	24	114
28-	3	--	--	54	73	135	123	122	93	53	38	47
28-	4	--	--	48	83	143	65	113	77	58	60	49
28-	5	--	--	54	219	246	187	204	131	109	95	80
28-	6	--	--	96	145	171	124	138	76	81	70	60
28-	7	--	--	97	127	149	96	148	47	29	26	21
28-	8	--	--	52	45	111	76	80	61	43	17	10
28-	9	--	--	73	61	125	82	85	74	52	42	36
28-	10	--	--	92	79	122	95	92	55	35	24	19
28-	11	--	--	99	63	86	56	48	42	34	20	12
28-	12	--	--	100	131	157	131	123	77	84	69	55
28-	13	--	--	48	46	102	76	64	51	46	40	33
28-	14	--	--	57	100	100	82	72	45	41	43	25
28-	15	--	2	66	97	120	98	114	98	83	43	32
28-	16	--	26	25	36	39	36	22	43	26	38	20
28-	17pt.	--	--	3*	4*	5*	3*	6*	4*	2*	2*	--
28-	18pt.	5*	--	13*	25*	40*	38*	50*	100*	75*	14*	10*
29-	1	--	--	68	160	168	151	149	86	37	30	18
29-	2	--	--	41	149	156	119	110	85	46	33	27
29-	3	--	--	46	103	184	132	144	72	58	38	28
29-	4	--	--	57	150	125	143	112	82	70	55	63
29-	5	--	--	58	148	157	108	105	56	33	29	32
29-	6	--	--	67	142	143	111	103	43	25	28	34

TABLE VI (continued)

RURAL POPULATION OF THE SPECIAL AREAS BY TOWNSHIPS

T R	1901	1916	1911	1916	1921	1926	1931	1936	1941	1946	1951
29- 7	--	--	97	137	145	110	110	64	59	61	43
29- 8	--	--	63	62	142	101	119	61	57	38	42
29- 9	--	--	108	70	165	113	89	28	17	16	17
29-10	--	--	65	86	98	65	57	13	12	9	13
29-11	--	--	42	37	82	55	50	28	13	3	5
29-12	--	--	49	87	151	160	137	149	112	99	81
29-13	--	--	70	69	64	39	41	56	56	20	21
29-14	--	2	64	151	136	97	88	83	44	26	19
29-15	--	4	153	169	199	173	213	197	194	174	144
29-16	--	7	101	124	150	168	179	166	149	124	99
30- 1	--	--	11	129	175	137	125	53	33	28	27
30- 2	--	--	2	109	131	162	131	122	93	79	68
30- 3	--	--	42	158	140	37	68	55	33	23	24
30- 4	--	--	45	125	74	38	57	33	30	28	14
30- 5	--	--	72	107	108	95	88	57	35	22	21
30- 6	--	--	45	114	103	79	80	28	28	17	15
30- 7	--	--	32	87	135	55	56	21	12	12	9
30- 8	--	--	48	84	128	90	102	19	20	33	11
30- 9	--	--	68	96	127	98	99	60	37	19	10
30-10	--	--	60	100	160	106	114	108	90	60	60
30-11	--	--	50	82	188	96	126	82	55	36	30
30-12	--	--	37	231	90	52	57	63	74	50	45
30-13	--	--	54	74	173	59	75	62	54	32	26

TABLE VI (continued)

RURAL POPULATION OF THE SPECIAL AREAS BY TOWNSHIPS

T R	1901	1906	1911	1916	1921	1926	1931	1936	1941	1946	1951
30-14	--	--	108	167	145	125	144	121	83	61	61
30-15	--	6	119	184	205	197	199	177	180	120	107
30-16pt.	--	4*	86*	130*	169*	161*	167*	157*	145*	103*	100*
31- 1	--	--	45	146	145	192	98	54	50	37	29
31- 2	--	--	20	103	119	178	98	66	59	62	79
31- 3	--	--	28	123	133	78	102	58	59	61	43
31- 4	--	--	69	141	152	206	241	173	138	108	99
31- 5	--	--	46	113	110	163	234	180	154	115	94
31- 6	--	--	81	98	131	187	207	138	96	69	61
31- 7	--	--	80	98	96	76	68	45	27	23	10
31- 8	--	--	92	93	124	74	68	35	27	31	23
31- 9	--	--	12	65	50	35	29	12	3	14	2
31-10	--	--	71	86	156	94	82	50	37	20	30
31-11	--	--	73	78	132	54	89	52	33	46	24
31-12	--	--	44	60	83	39	76	29	25	24	21
31-13	--	--	75	92	21	96	91	89	49	34	25
31-14	--	--	105	171	210	175	225	136	164	172	149
31-15pt.	--	--	70*	98*	167*	185*	150*	205*	120*	76*	50*
32- 1	--	--	23	150	155	116	89	45	31	30	18
32- 2	--	--	13	109	127	44	49	24	15	10	9
32- 3	--	--	16	120	122	91	54	57	47	42	29
32- 4	--	--	17	90	105	109	102	90	54	56	46
32- 5	--	--	27	77	109	85	111	106	97	55	52

TABLE VI (continued)

RURAL POPULATION OF THE SPECIAL AREAS BY TOWNSHIPS

T R	1901	1906	1911	1916	1921	1926	1931	1936	1941	1946	1951
32- 6	--	--	87	117	113	81	81	28	28	17	36
32- 7	--	--	99	49	148	95	122	68	54	38	36
32- 8	--	--	118	149	149	139	166	106	94	56	32
32- 9	--	--	69	96	124	123	129	92	76	101	83
32-10	--	--	61	85	108	59	56	44	42	25	36
32-11	--	--	98	88	106	62	103	86	72	58	42
32-12	--	--	149	148	140	103	159	79	52	60	59
32-13	--	--	46	44	97	72	107	117	90	87	55
32-14	--	--	82	105	128	226	152	100	106	81	65
32-15pt.	--	--	90*	110*	96*	85*	102*	80*	70*	61*	71*
33- 1	--	--	59	195	201	216	141	158	175	148	153
33- 2	--	--	64	159	142	110	116	109	83	89	72
33- 3	--	--	6	71	119	90	104	84	40	33	27
33- 4	--	--	32	129	135	77	85	50	34	27	21
33- 5	--	--	59	117	145	127	113	92	87	43	21
33- 6	--	--	104	102	93	66	98	70	57	41	38
33- 7	--	--	140	169	160	141	135	111	69	69	89
33- 8	--	--	73	106	129	109	103	81	73	41	45
33- 9	--	--	74	143	102	107	128	91	81	65	47
33-10	--	--	59	98	100	51	67	49	25	16	21
33-11	--	--	55	150	81	46	64	31	16	24	32
33-12	--	--	45	149	138	88	114	94	100	77	79
33-13	--	--	67	87	96	84	104	80	79	67	83

TABLE VI (continued)

RURAL POPULATION OF THE SPECIAL AREAS BY TOWNSHIPS

T R	1901	1906	1911	1916	1921	1926	1931	1936	1941	1946	1951
33-14	--	--	48	111	152	148	198	182	167	127	86
33-15	--	--	47	146	237	229	299	246	226	187	161
33-16pt.	--	--	--	--	--	--	--	--	--	--	--
34- 1	--	--	3	111	127	122	154	114	90	82	84
34- 2	--	--	11	134	167	167	207	154	100	90	74
34- 3	--	--	20	179	171	131	144	134	130	96	103
34- 4	--	--	38	31	112	33	44	37	22	17	12
34- 5	--	--	47	100	121	98	134	71	35	35	24
34- 6	--	--	136	178	164	181	173	134	100	72	68
34- 7	--	--	127	174	140	121	115	99	58	51	41
34- 8	--	--	131	143	152	138	170	106	90	72	39
34- 9	--	--	63	146	147	100	129	63	75	54	50
34-10	--	--	51	84	113	77	61	50	52	52	41
34-11	--	--	35	61	102	52	66	36	41	40	37
34-12	--	--	92	120	146	79	106	70	55	49	34
34-13	--	--	55	67	95	102	115	89	88	76	68
34-14	--	--	57	78	106	138	132	79	59	50	33
35- 1	--	--	8	149	142	187	167	168	142	157	132
35- 2	--	--	--	24	32	30	43	47	36	15	10
35- 3	--	--	42	79	102	94	104	101	70	43	27
35- 4	--	--	48	171	180	141	130	90	60	132	127
35- 5	--	--	29	142	144	141	182	131	97	69	44
35- 6	--	--	98	119	209	200	189	153	141	106	85

TABLE VI (concluded)

RURAL POPULATION OF THE SPECIAL AREAS BY TOWNSHIPS

T	R	1901	1906	1911	1916	1921	1926	1931	1936	1941	1946	1951
35-	7	--	--	84	167	171	207	170	140	118	90	99
35-	8	--	--	92	133	183	170	159	144	129	109	86
35-	9pt.	--	--	65*	62*	86*	65*	75*	20*	60*	53*	51*
36-	2pt.	--	--	21*	24*	36*	32*	24*	31*	18*	12*	16*
36-	3pt.	--	21*	56*	72*	75*	58*	63*	27*	21*	19*	8*
36-	4	--	--	31	113	145	101	92	70	40	45	31
36-	5	--	--	11	119	107	116	128	115	65	46	46
36-	6	--	2	6	100	81	123	123	103	53	37	40
36-	7	--	--	2	49	139	112	122	112	70	32	26
36-	8	--	2	47	95	132	114	149	126	107	75	55
36-	9pt.	--	--	62*	80*	101*	98*	100*	96*	81*	75*	50*
37-	3pt.	--	--	27*	80*	65*	45*	40*	35*	20*	12*	9*
37-	4	--	6	4	66	67	17	12	9	4	2	2
37-	5	--	9	16	69	56	43	45	36	32	33	24
37-	6	--	--	33	171	109	116	114	99	84	66	63
37-	7	--	5	19	61	91	90	100	95	40	35	30
37-	8	--	4	35	93	136	71	124	122	104	81	81
37-	9pt.	--	2*	14*	16*	28*	24*	20*	16*	12*	10*	6*

TABLE VII

POPULATION OF INCORPORATED TOWNS AND VILLAGES, 1901-1951

PLACE	1901	1906	1911	1916	1921	1926	1931	1936	1941	1946	1951
Hanna	--	--	--	711	1364	1400	1490	1405	1622	1756	2027
Cereal	--	--	--	89	180	156	185	131	142	111	135
Chinook	--	--	--	189	241	198	176	134	142	130	116
Compeer	--	--	--	--	--	--	94	D	--	--	--
Consort	--	--	--	131	166	196	299	252	265	325	396
Empress	--	--	--	426	394	374	314	303	341	417	411
Jenner	--	--	--	--	98	44	62	49	27	D	--
Monitor	--	--	--	210	149	139	137	99	82	D	--
Oyen	--	--	--	286	390	346	401	298	326	339	433
Richdale	--	--	--	--	109	58	44	D	--	--	--
Veteran	--	--	--	102	157	167	180	180	190	191	206
Youngstown	--	--	--	305	410	457	372	187	188	235	352

D. Disorganized.

TABLE VIII

POPULATION OF THE SPECIAL AREAS, 1901 to 1951

Year	Total Rural Population	Town and Village Population	Total Population
1901	37	0	37
1906	187	0	187
1911	11,039	0	11,039
1916	21,715	2,449	24,164
1921	26,031	3,658	29,689
1926	19,344	3,529	22,873
1931	20,320	3,754	24,074
1936	14,967	3,038	18,005
1941	11,794	3,325	15,119
1946	9,542	3,504	13,046
1951	8,430	4,076	12,506

APPENDIX B

Legislation

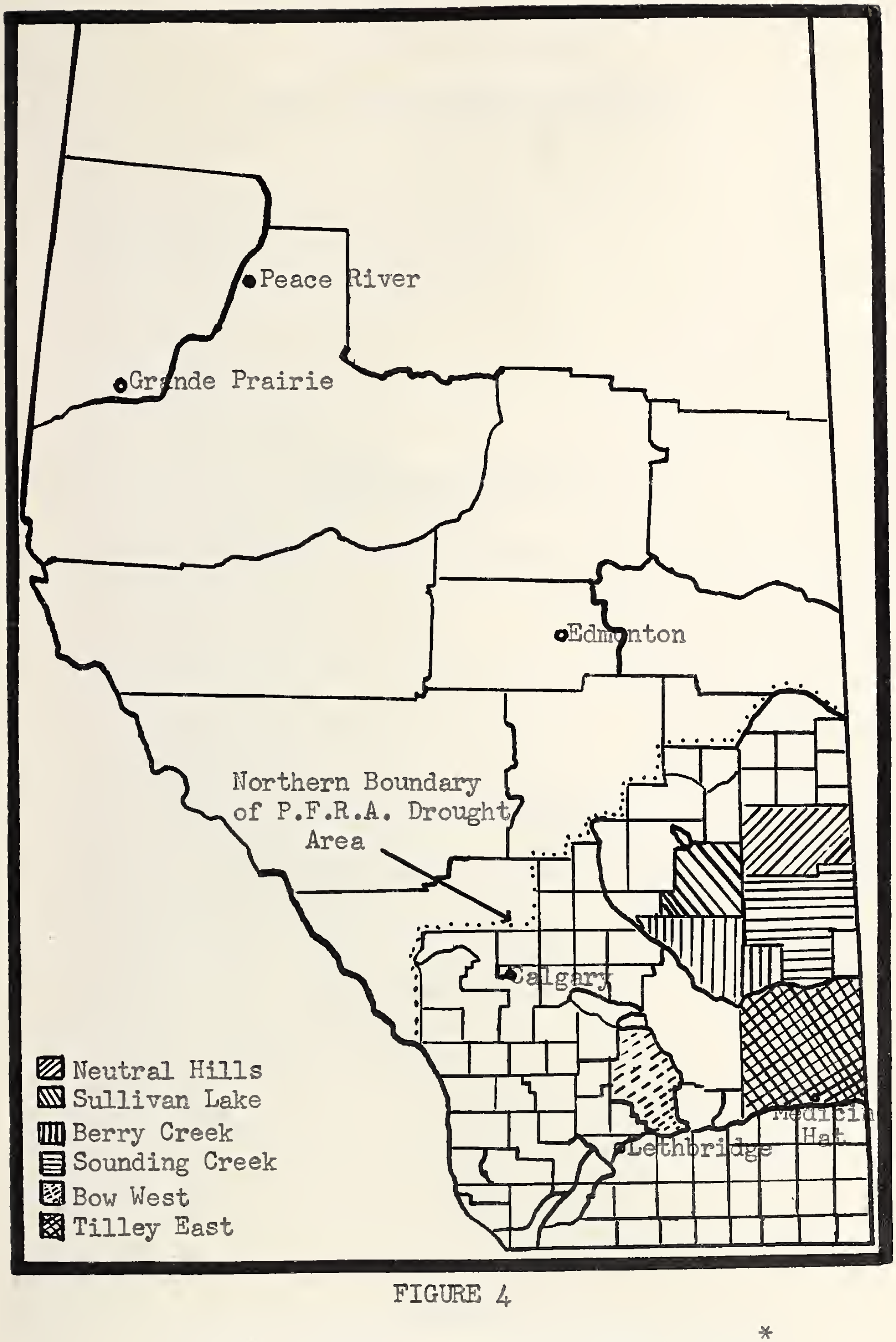

FIGURE 4

LOCATION OF SPECIAL AREAS OF ALBERTA, 1938*

* A. Stewart and W. D. Porter, *Land Use Classification in the Special Areas of Alberta and in Roseheim and Acadia Valley*, Dominion of Canada, Department of Agriculture, Publication No.731, Technical Bulletin No.39, 1942, 26.

Province of Alberta

DEPARTMENT OF LANDS AND MINES

THE SPECIAL AREAS ACT

Consolidated for Office Purposes only.

This Revision Contains:

1. 1942, R.S.A., Chapter 153;
2. 1943, Chapter 23;
3. 1948, Chapter 51;
4. O.C. 550-48.

Edmonton:

A. Shnitka, King's Printer
1950

O.C.550-48

Approved and Ordered.

(Sgd.) J. C. Bowen,
Lieutenant Governor.

Edmonton, Wednesday, May 12, 1948.

Upon the recommendation of the Honourable the Minister of Lands and Mines and the Minister of Municipal Affairs, the Executive Council advises that, pursuant to subsection (2) of Section 8 of The Public Service Act, being Chapter 31 of the Revised Statutes of Alberta, 1941, all the duties, powers and functions heretofore assigned to, held, performed and exercised by the Department of Lands and Mines and the Minister in charge thereof under the provisions of The Special Areas Act, being Chapter 153 of the Revised Statutes of Alberta, 1942, and amendments thereto, be and are hereby transferred to the Department of Municipal Affairs and the Minister in charge thereof, dating on, from and after the 1st day of June, 1948.

(Sgd.) Ernest C. Manning.
(Chairman).

Province of Alberta

THE SPECIAL AREAS ACT

(Office Consolidation)

(Being chapter 153 of the Revised Statutes of Alberta, 1942, with amendments up to and including 1949.)

HIS MAJESTY, by and with the advice and consent of the Legislative Assembly of the Province of Alberta, enacts as follows:

Short Title

1. This Act may be cited as "The Special Areas Act." (R.S.A. 1942, c.153, s.1.)

Interpretation

2. In this Act, unless the context otherwise requires,--
   - (a) "Board" means the Special Areas Board appointed pursuant to this Act;
   - (b) "Department" means the Department of Municipal Affairs;
   - (c) "Land" means unsubdivided land situated in a special area, and includes buildings and improvements thereon but does not include any minerals therein or thereunder;
   - (d) "Minister" means the Minister of Municipal Affairs;
   - (e) "Municipality" means any municipal district or improvement district or part thereof included in a Special Area;
   - (f) "Person" includes a partnership or corporation;
   - (g) "Public lands" means and includes all real property of whatsoever nature or kind to which The Public Lands Act applies;
   - (h) "Ratepayer" means the person with the right of possession of land and includes any lessee of public lands;

(i) "Special Area" means any Special Area constituted under the authority of this Act and includes Tilley East, Berry Creek, Sounding Creek, Sullivan Lake, Neutral Hills and Bow West, now constituted as Special Municipal Areas;

(j) "Unsubdivided Lands" means all land other than and except land subdivided into lots and blocks as a townsite, a plan of which is registered in a Land Titles Office.

(R.S.A. 1942, C.153, s.2; 1949, c.95,s.1)

Special Areas Constituted

3. Each of the areas in the Province next hereinafter described is hereby constituted as a Special Area; the area first so described shall be known as The Tilley East Special Area, the area secondly so described shall be known as The Berry Creek-Sullivan Lake Special Area, the area thirdly so described shall be known as The Sounding Creek-Neutral Hills Special Area, and the area fourthly so described shall be known as The Bow West Special Area.

The description of the areas hereinbefore mentioned is as follows:

1.--THE TILLEY EAST SPECIAL AREA.

All that part of the Province of Alberta except so much thereof as is included within the corporate boundaries of any town or village, described as follows:

Commencing at the north-east corner of township 12, range 1, west of the 4th meridian; thence northerly along the said 4th meridian to its intersection with the left bank of the Red Deer River, in township 23; thence in a generally westerly direction along the said left bank to

its intersection with the range line between ranges 10 and 11 in township 21; thence southerly along the road allowance between the said ranges to the south-east corner of township 14, range 11; thence westerly along the road allowance between townships 13 and 14 to the intersection of the said road allowance with the left bank of the Bow River; thence in a generally southerly and westerly direction along the left bank of the Bow River and continuing to township 11, range 13; thence in a generally easterly and northerly direction along the left bank of the Saskatchewan River to the intersection of the said bank with east boundary of section 34, township 12, range 6; thence northerly to the south-east corner of the north-east quarter of the said section; thence westerly to the south-west corner thereof; thence northerly along the west boundary of the north-east quarter to the south boundary of section 3, township 13, range 6; thence easterly along the south boundary of sections 3 and 2 in the said township to the south-east corner of section 2; thence northerly along the east boundary of section 2 to the north-east corner of the south-east quarter of the said section; thence easterly along the south boundary of the north half of section 1, township 13, range 6, and along the south boundary of the north half of sections 5 and 6, township 13, range 5, to the intersection of the said boundary with the left bank of the South Saskatchewan River; thence southerly along the said left bank to the intersection of the bak with the road allowance between townships 12 and 13; thence easterly along the said road llowance to the point of commencement; all west of the 4th meridian.

2.--BERRY CREEK-SULLIVAN LAKE SPECIAL AREA.

All that part of the Province except so much thereof as is included within the corporate boundaries of any town or village, described as follows:

Commencing at the north-east corner of township 37, range 8, west of the 4th meridian; thence westerly along the road allowance between townships 37 and 38, to the road allowance between ranges 9 and 10; thence southerly along the said road allowance to the south-east corner of township 35, range 10, thence westerly along the road allowance between townships 34 and 35 to the intersection of the road allowance with the east shore of Sullivan Lake; thence southerly and westerly along the said shore of Sullivan Lake to the north-west corner of township 33, range 14, west of the 4th meridian; thence westerly along the road allowance between townships 33 and 34 to the north-west corner of township 33, range 15, west of the 4th meridian; thence southerly along the road allowance between ranges 15 and 16 to the south-west corner of township 31, range 15, west of the 4th meridian; thence westerly along the road allowance between townships 30 and 31 to the north-west corner of township 30, range 16, west of the 4th meridian; thence southerly along the road allowance between ranges 16 and 17 to the south-west corner of township 29, range 16, west of the 4th meridian; thence westerly along the road allowance between townships 28 and 29 to the north-west corner of township 28, range 18, west of the 4th meridian; thence southerly along the road allowance between ranges 18 and 19 to the south-west corner of section 19, township 28, range 18, west of the 4th meridian; thence easterly along the south boundary of the said section

19 to the north-west corner of section 17, township 28, range 18, west of the 4th meridian; thence southerly along the west boundary of sections 17 and 8 of the said township to the south-west corner of section 8; thence easterly along the south boundary of sections 8 and 9 to the north-west corner of the north-east quarter of section 4 of the said township; thence southerly along the west boundary of the east half of the said section 4 to the south-west corner of the south-east quarter of the said section; thence easterly to the south-east corner of the said section; thence southerly along the west boundary of section 34, township 27, range 18, west of the 4th meridian to the south-west corner of the north-west quarter of section 34, thence easterly along the south boundary of the north-west quarter of the said section to the south-east corner thereof; thence southerly along the west boundary of the east halves of sections 34, 27 and 22, township 27, range 18, west of the 4th meridian to the intersection of the said boundary with the left bank of the Red Deer River; thence southerly and easterly along the sinuosities of the said bank to the intersection of the said bank with the range line between ranges 7 and 8; thence northerly along the said range line between ranges 7 and 8, to the point of commencement.

3.--THE SOUNDING CREEK-NEUTRAL HILLS SPECIAL AREA

All that part of the Province excepting so much thereof as is included within the corporate boundaries of any town or village described as follows:

Commencing at the north-east corner of township 35, range 1, west of the 4th meridian; thence westerly along the road allowance

between townships 35 and 36 to the north-west corner of township 35, range 3; thence northerly along the road allowance between ranges 3 and 4 to the north-west corner of township 37, range 3; thence westerly along the road allowance between townships 37 and 38 to the north-west corner of township 37, range 7; thence southerly along the range line between ranges 7 and 8 to the intersection of the said range line with the left bank of the Red Deer River in township 23; thence in a generally easterly direction along the said left bank of the Red Deer River to the intersection with the east boundary of section 13 in township 23, range 4; thence northerly along the road allowance between ranges 3 and 4 to the north-west corner of township 26, range 3; thence easterly along the road allowance between townships 26 and 27 to the intersection with the 4th meridian; thence northerly and along the said 4th meridian to the point of commencement; all west of the 4th meridian.

4.--THE BOW WEST SPECIAL AREA.

All that part of the Province except so much thereof as is included within the corporate boundaries of any town or village described as follows:

Commencing at the south-east corner of township 12, range 17, west of the 4th meridian; thence northerly along the range line between ranges 16 and 17 to the intersection with the north boundary of township 14; thence easterly along the north boundary of township 14 to the intersection with the right bank of the Bow River; thence in a generally north-westerly direction upstream along the said right bank of the Bow River to the intersection with a line dividing the north and

south halves of township 20, in range 19; thence westerly along the said dividing line and continuing westerly to the intersection with the range line between ranges 20 and 21; thence southerly along the said range line between ranges 20 and 21 to the north boundary of township 16; thence westerly along the said north boundary of township 16 to the intersection with the range line between ranges 21 and 22; thence southerly along the said range line between ranges 21 and 22 to the north boundary of township 13; thence easterly along the said north boundary of township 13 to the north-east corner of section 32, township 13, range 20; thence southerly along the east boundary of the said section 32 to the south-east corner of the north-east quarter of the said section 32; thence westerly along the south boundary of the north half of section 32 to the south-west corner of the north-west quarter of section 32; thence southerly along the west boundary of the south-west quarter of section 32 to the south-west corner thereof; thence westerly along the south boundary of the south-east quarter of section 31 to the south-west corner thereof; thence southerly along the west boundary of the east half of section 30 and along the west boundary of the east half of section 19 to the south-west corner of the south-east quarter of the said section 19; thence easterly along the south boundary of the said south-east quarter of section 19 to the south-east corner thereof; thence southerly along the east boundary of the north-east quarter of section 18 to the south-east corner thereof; thence easterly and along the south boundary of the north-west quarter of section 17 to the south-east corner thereof; thence southerly along the west boundary of the south-east quarter of the said section 17 to the south-west corner thereof; thence easterly and along the south boundary

of the said south-east quarter of section 17 to the south-east corner thereof, thence southerly along the road allowance between sections 8 and 9 in township 13, range 20, to the north-east corner of section 20 of township 12, range 20; thence easterly along the north boundary of the north-west quarter of section 21 to the north-east corner thereof; thence southerly along the east boundary of the said north-west quarter of section 21 to the south-east corner thereof; thence easterly along the south boundary of the north-east quarter of section 21 and the north-west quarter of section 22 to the south-east corner of the said north-west quarter of section 22; thence southerly along the west boundary of the south-east quarter of section 22 to the south-west corner thereof; thence easterly along the south boundary of the south-east quarter of the said section 22 to the south-east corner thereof; thence southerly along the east boundary of the north-east quarter of section 15 to the south-east corner thereof; thence easterly along the south boundary of the north halves of sections 14 and 13 to the south-west corner of the north-east quarter of the said section 13; thence northerly along the west boundary of the said north-east quarter of section 13 to the north-west corner thereof; thence easterly along the north boundary of the said north-east quarter of section 13 to the north-east corner thereof; thence northerly along the east boundary of section 24 to the north-east corner thereof; thence easterly along the south boundary of the south-west quarter of section 30 in township 12, range 19, to the south-east corner thereof; thence northerly along the east boundary of the said south-west quarter of section 30 to the north-east corner thereof; thence easterly along the south boundary of

the north halves of sections 30 and 29 to the north-east corner of the south-west quarter of the said section 29; thence southerly along the east boundary thereof to the south-east corner thereof; thence easterly along the south boundary of the south-east quarter of the said section 29 to the south-east corner thereof; thence southerly along the east boundaries of sections 20 and 17 to the south-east corner of the north-east quarter of the said section 17; thence easterly along the south boundary of the north-west quarter of section 16 to the south-east corner thereof; thence southerly along the centre line of sections 16 and 9 to the south-west corner of the north-east quarter of section 9; thence easterly along the south boundary of the said north-east quarter of section 9 to the south-east corner thereof; thence southerly and along the east boundary of the south-east quarter of the said section 9 to the south-east corner thereof; thence easterly along the south boundary of the south-west quarter of section 10 to the south-east corner thereof; thence southerly along the west boundary of the north-east quarter of section 3 to the south-west corner thereof; thence easterly along the south boundary of the said north-east quarter of section 3 to the south-east corner thereof; thence southerly along the road allowance between sections 2 and 3 to the south-east corner of the south-east quarter of section 27 in township 11, range 19; thence westerly along the south boundary of the south-east quarter of the said section 27 to the south-west corner thereof; thence southerly through the centre of sections 22, 15 and 10 to the south-west corner of the north-east quarter of the said section 10; thence easterly along the south boundary of the said north-east quarter of the said section

10 to the south-east corner thereof; thence southerly along the road allowance between sections 10 and 11 to the intersection with the left bank of the Old Man River; thence in a generally south-easterly and northerly direction downstream along the said left bank of the Old Man River to the intersection with the south boundary of township 12, range 16; thence westerly along the south boundary of the said township 12 to the point of commencement; all west of the 4th meridian.

(R.S.A. 1942, c.153, s.3)

Administration of Special Areas.

4. The Lieutenant Governor in Council shall have power notwithstanding the provisions of any other Act,--

(a) to increase any Special Area by the addition of land, or decrease any Special Area by the withdrawal of land;

(b) to appoint a Board of not more than three members, who shall perform such duties and exercise such powers pertaining to a Special Area, or Special Areas which are imposed or conferred upon the Minister by this Act as may from time to time be assigned by the Minister to the Board;

(c) subject to the provisions of The Public Service Efficiency Act to appoint such officers, servants, and employees as may be necessary for the administration of this Act and to prescribe their respective duties;

(d) to make such orders and regulations for the administration of any Special Area, or Special Areas as may be deemed proper, and authorize the carrying out of any scheme or plans for the re-

habilitation or betterment of any Special Area and the inhabitants thereof;

(e) upon the recommendation of the Minister to provide for the compromise of arrears of taxes owing by any person in respect to any land in a Special Area and fix the amount which shall be accepted in satisfaction thereof and the manner in and the times at which any sum so fixed shall be paid;

(f) upon the recommendation of the Minister to provide for the compromise of arrears of rentals, dues, fees or other charges owing by any person in respect to any public land in a Special Area and fix the amount which shall be accepted in satisfaction thereof and the manner in and the times at which any sum so fixed shall be paid;

(g) upon the recommendation of the Minister to make regulations either generally or with respect to any area or with respect to any designated part or parts of any area as to the running at large of domestic animals or any designated kind or kinds thereof, either during the entire year or during any designated part or parts thereof, and either by the prohibition or the permission of the running at large of all or any domestic animals or by both prohibition and permission and to prescribe what shall and what shall not be deemed to be a lawful fence and to prescribe the terms and conditions under which any designated kind or description of domestic animals may be permitted to run at large, or graze upon unfenced lands, and for the impoundment and sale of any animal running at large in contravention of any

such regulations.

(R.S.A. 1942, c.153, s.4.)

5. Each Special Area constituted pursuant to this Act shall be assigned a distinctive number by the Minister and its title shall be the words "Special Area" followed by such number as is assigned to it by the Minister. (R.S.A. 1942, c.153, s.5.)

6.--(1) Save and except only as is expressly otherwise provided in this Act, all the provisions of The Improvement Districts Act and The Assessment Act, shall apply to every Special Area as if the same were an improvement district constituted pursuant to that Act.

Subsection (2) repealed. (1949, c.95, s.2.)

(3) The property liable to assessment and taxation in any Special Area shall be the property declared to be so liable by The Assessment Act. (R.S.A. 1942, c.153, s.6; 1943, c.23, s.1; 1949, c.95, s.2.)

7. Notwithstanding any provision to the contrary contained in The Improvement Districts Act, or in any other Act,--

(a) the several mill rates for the levying of taxes leviable in respect of any land and other property in a special area shall be such rate on the dollar of the assessed value of the land as may be fixed from time to time by the Lieutenant Governor in Council;

(b) requisitions from any municipal hospital district must be supported by such information as may be required by the Minister who may confirm the same, or may vary any requisition by agreement with the hospital board and confirm the requisition as

varied;

(c) the Deputy Minister of Municipal Affairs shall in respect of each Special Area cause to be entered upon the assessment roll against each parcel assessed upon the roll on or before the first day of November in each year, a statement of,--

(i) the total current taxes.

(ii) the total arrears of taxes.

(d) every tax notice shall show the property assessed, its assessed value, the several mill rates of taxation for the current year, the total current taxes against each parcel assessed, together with total arrears of taxes against each parcel and the notice shall be in such form as may be prescribed by the Minister.

(R.S.A. 1942, c.153, s.7; 1949, c.95, s.3.)

Collection of Taxes

8.-(1) No discount shall be allowed upon payment of, or on account of taxes which become due and payable in the year in which the payment is made.

(2) If, after the thirty-first day of March in any year, any taxes which became due and payable in any preceding year remain unpaid, there shall be added thereto by way of a penalty six per cent, or such lesser rate as the Minister may prescribe, on the first day of April in that year and each succeeding year so long as the taxes remain unpaid, and every amount so added shall form a part of the taxes which are created a special lien upon the land under the provisions of The Improvement Districts Act. (R.S.A. 1942, c.153, s.8; 1943, c.23, s.2.)

9. In case in any year the amount of taxes levied and collected in any Special Area is insufficient to defray the expenditures of the Special Area, the Provincial Treasurer shall make good the deficiency out of such sums as may be appropriated for the purpose by vote of the Legislative Assembly. (R.S.A. 1942, c.153, s.9.)

10. The Lieutenant Governor in Council shall have power notwithstanding any provision to the contrary contained in any other Act, to establish by regulations a scheme for the hospitalization of the residents of any Special Area or any part thereof which is not included within a municipal hospital district constituted pursuant to the provisions of The Municipal Hospitals Act, and for that purpose may include in the scheme authority to impose, levy and collect by distress or otherwise in respect of any land in the Special Area or part thereof, a mill rate at such rate on the dollar of the assessed value of the land as may be fixed from time to time. (R.S.A. 1942, c.153, s.10.)

11.-(1) Notwithstanding the provisions of The Tax Recovery Act, or of any other Act, whenever any parcel of land in a Special Area has been finally acquired under the provisions of The Tax Recovery Act, or of any other Act relating to the recovery of taxes, the Minister shall proceed to obtain title of the parcel of land, and upon the Minister obtaining title, every right of any person whatsoever to redeem the parcel shall cease and determine.

(2) In case at the time when the Minister acquires the title to any parcel of land as aforesaid the parcel is in the occupation of a person who was immediately prior thereto the registered owner thereof, or a

person who derived title thereto from the registered owner as a purchaser under an agreement for sale or as the personal representative of the owner, that person shall have the right to become the lessee thereof for such term at such rent and upon such terms and conditions as may be prescribed by the Minister; provided always that he shall exercise his right by executing the lease in the form prescribed by the Board or by delivering to the Board a written undertaking to execute the lease within thirty days after the day upon which the Board sends to him a notice to the effect that the title to the parcel has been taken by the Minister, and setting out therein a copy of this subsection. (R.S.A. 1942, c.153, s.11.)

12.-(1) None of the provisions of The Local Tax Arrears Consolidation Act shall apply to any arrears of taxes payable in respect of any parcel of land which is situate in a Special Area, save and except arrears of taxes with respect to which a consolidation agreement which was subsisting as at the 31st day of March, 1939, has been entered into pursuant to The Local Tax Arrears Consolidation Act, 1934, or The Local Tax Arrears Consolidation Act, 1935.

(2) In case default is made at any time after the 31st day of March, 1939, in the making of any payment of any sum payable pursuant to any agreement for the consolidation of any arrears of taxes payable in respect of any parcel of land situate in a Special Area subsisting as at the 31st day of March, 1939, the same shall be cancelled, and no subsequent agreement for the consolidation of any arrears of taxes payable in respect of that land shall be entered into.

(R.S.A. 1942, c.153, s.12.)

Powers of Minister

13. The Minister is hereby empowered in respect of Special Areas generally or in respect of any specified special area or areas,--

(a) to direct that any of the public lands or interest therein within a Special Area shall be dealt with in such manner as may seem to him to be for the benefit of the residents of the Special Area, or to prohibit the dealing therein in any manner which seems to him to be detrimental to such residents;

(b) to lease public lands within a Special Area at such rentals as may seem fair and equitable;

(c) to set aside lands for community purposes, such as grazing preserves, hay reserves, water reserves and irrigation, and to make such provisions for the administration thereof as may be deemed advisable;

(d) to receive the money payable in respect of any lease or any interest in public lands or in respect of taxes or other revenues in a Special Area and to deposit the same in a treasury branch or chartered bank or other similar institution in a trust account to be called 'The Special Districts Trust Account' and to expend such moneys, or any part thereof as he may deem advisable for the following purposes or any of them,--

(i) meeting any of the expenditures required or authorized under the provisions of The Improvements Districts Act, 1947;

(ii) the costs of administration;

(iii) the development of natural resources;

(iv) the carrying out of improvements within any special area;

(v) the rehabilitation of settlers within any special area; or

(vi) for such other purposes as the Board may direct.

(e) to order and require any owner or occupant of lands to adopt such methods of farming or grazing, or farming and grazing as may be deemed necessary to prevent soil drifting or over-grazing, or any hazard which may dissipate or nullify any assistance rendered to residents within the Special Area;

(f) to exchange any public lands within a Special Area for any other lands situate within any Special Area;

(g) to promote approved farm cultural practices and efficient range management, and such community effort and enterprise as may contribute to greater economic security of residents of the Special Area;

(h) to classify all lands within the Special Area for the purpose of utilizing them for the purpose for which they are considered by him to be most adaptable;

(i) to promote measures for the development and conservation of any and all available natural resources within any Special Area for the purpose of giving greater stability of income to the residents of the Special Area;

(j) to promote greater stability and diversity of sources of income for residents of any Special Area to the end that they may become self-supporting;

(k) to acquire by purchase or otherwise any property whether real or personal which is requisite or incidental to the exercise of any powers conferred by this Act;

(l) to carry out and execute any scheme or plans for the rehabilitation or betterment of any Special Area and the inhabitants thereof;

(m) to enter into any agreement or agreements with the board or governing body of any hospital within the meaning of The Hospitals Act for the provision of hospital facilities for the residents of any special area;

(n) to enter into agreements with medical practitioners for the supplying of medical care and attention to the residents of a special area;

(o) to do all such things as are requisite or incidental to the exercise of any power conferred by this Act.

(R.S.A. 1942, c.153, s.13; 1943, c.23, s.3; 1948, c.51, s.1; 1949, c.95, s.4.)

14. Notwithstanding the provisions of any other Act any lands within a Special Area, the title to which for the time being is registered in the name of any municipality in the proper Land Titles Office, are hereby transferred to, and the title thereto vested in the Minister on behalf of the Crown. (R.S.A. 1942, C.153, s.14.)

15.-(1) Any surveyors, engineers, agents and workmen employed by the Province may enter upon and occupy any land in a Special Area for the purpose of making examinations and surveys for the purpose of carrying out any work or undertaking approved by the Lieutenant Governor in Council as a work or undertaking for the rehabilitation or betterment of the Special Area, to construct thereon dams, ditches, weirs, spillways, roads and such other buildings, structure or erections as may be

necessary or incidental to the carrying out of any such work or undertaking or the maintenance thereof, and any land forming the site of any such work or undertaking or which is used, or occupied in connection therewith, shall be deemed to be the property of the Crown so long as it is required for the purpose of the work or undertaking.

(2) In any case in which it is made to appear to the Minister that any right or property of any person has been detrimentally affected by reason of any act or thing done pursuant to this section, or by the use or occupation of any land used or occupied in the exercise of any power conferred by this section, the Minister may, after making such inquiries as he deems necessary, allow such person such compensation as he may in his discretion think proper, and any compensation so allowed shall be paid out of any moneys appropriated by the Legislature for the administration of this Act. (R.S.A. 1942, c.153, s.15)

1 6. Notwithstanding anything to the contrary contained in any other Act, the Minister may by order declare that all or any roads, trails and bridges in any Special Area be closed for the purpose of travel or use for such time as may be specified in the order and upon the making of any such order and so long as it remains in force, no action shall lie against anyone for damages arising out of the use of any road, trail, or bridge specified in the order. (R.S.A. 1942, c.153, s.16)

17.-(1) For the purpose of performing any duty or exercising any power in relation to any Special Area assigned to the Board by the Minister, the Board shall, subject to the direction of the Minister, be the agent of the Minister for that purpose and have the same powers and capacity

to perform or discharge such duty or power as is conferred by the Act upon the Minister for that purpose.

(2) The Minister may be order provide for the constitution in any special area of an Advisory Committee consisting of such persons elected in such manner and by such persons and in such localities as he may prescribe, who shall hold office for such terms as he may prescribe, and the functions of the committee shall be to confer with and advise the Board as to matters affecting the special area for which it is constituted, and it shall meet when called by the Board; the members of the committee shall serve without remuneration but shall be entitled to reasonable travelling and subsistence expenses, to be fixed by the Minister, incurred in attending meetings called by the Board, and in performing such other duties as may be assigned to them by the Board.

(R.S.A. 1942, c.153, s.17; 1943, c.23, s.4.)

Lands in Special Areas.

18. No public lands or any lands referred to in section 11, situated in a Special Area, shall be sold, leased or otherwise disposed of without the consent of the Minister. (R.S.A.1942, c.153, s.18.)

19.-(1) (Subsection (1) repealed 1949, c.95, s.5.)

(2) There shall be submitted to the Legislative Assembly within the first fifteen days of the first Session in each year a statement of the revenues received and expenditures made during the previous fiscal year.

(3) All revenue derived from public lands of a class designated School lands shall be payable to the General Revenue Fund of the

Province. (R.S.A. 1942, c.153,s.19; 1948, c.51, s.2; 1949, c.95, s.5)

20. Any land in a special area vested in the trustees of an irrigation district may, with the approval of the Irrigation Council and the Minister, be dealt with as land within the meaning of paragraph (c) of section 2. (R.S.A. 1942, c.153, s.20; 1949, c.95, s.6)

21. The Minister may accept a transfer on behalf of His Majesty of any lands in a Special Area and any lands so acquired shall be subject to the direction of the Minister as provided by this Act.

(R.S.A. 1942, c.153, s.21; 1949, c.95, s.7)

22. Notwithstanding the provisions of any other Act where title to any lands in a municipality situated in a special area has been obtained by the municipality or by the Minister under the provisions of any Act relating to the recovery of taxes, such land shall be removed from the assessment rolls, and shall cease to be liable to assessment and taxation, and any taxes owing in respect to such land shall be cancelled.

(R.S.A. 1942, c.153, s.22; 1949, c.95, s.8)

23. All assessments and taxes levied against lands that have been finally acquired by any municipality situate in a Special Area under the provisions of The Tax Recovery Act, or any other Act of the Province relating to the recovery of taxes but to which transfer of title has not been taken, are hereby validated and confirmed. (R.S.A. 1942, c.153, s.23)

24. For the purpose of doing any act or thing authorized by this Act, the Minister and the Board may, with the consent of the Minister in charge of any Department of the Government, have the benefit of the services of any officer or other employee of that Department, and of the services of any member, officer or employee of any Board or Commission established under

the Provincial Statutes. (R.S.A. 1942, c.153, s.24)

25. In any case in which provision has been made pursuant to this Act for the compromise of any arrears of taxes, rentals, dues, fees, or other charges and a sum has been thereby fixed as the sum to be paid in satisfaction of the arrears, the authority entitled to receive the same shall accept the sum fixed, and the arrears in excess of the sum fixed shall be cancelled. (R.S.A. 1942, c.153, s.25)

26. When an exchange of privately owned land for public land is effected by the Minister and there are no incumbrances other than arrears of taxes or municipal or Provincial liens on the privately owned land, such incumbrances or any part thereof may be transferred to the public land so exchanged; and when any transfer of arrears of taxes is made the same shall be added to, and become part of the taxes payable for the current year in respect of the land last mentioned. (R.S.A. 1942, c.153, s.26)

27.-(1) The Department of Lands and Forests shall keep a record of all public lands in a special area subject to the provisions of The Public Lands Act.

(2) Upon any person becoming entitled to receive a title in fee simple to any public lands or to any lands to which The Public Lands Act applies in a special area a notification in Form A shall be issued in accordance with the provisions of The Public Lands Act.
(R.S.A. 1942, c.153, s.27; 1949, c.95,s.9)

Grazing

28. For the purpose of controlling and regulating any part of an area set aside for a community grazing area, the Minister may, with the approval of the Lieutenant Governor in Council, make such provision for the administration thereof as may be deemed proper, and may prescribe as to the

persons who may have animals thereon, the number, kind, and description of animals which any person may place thereon, the fees payable in respect of any animals permitted to graze thereon, the times at which and the manner in which round-ups shall be made, and the impounding and dealing with stray animals thereon and in case any provisions so made conflicts with any provision of The Domestic Animals (Unorganized Territories) Act, or The Domestic Animals Act (Municipalities), the provisions so made shall prevail. (R.S.A. 1942, c.153, s.28)

29.-(1) Notwithstanding the provisions of any other Act, all sums payable under any grazing lease or under any permit in respect of any animals run or grazed upon any lease or any community pasture or any public lands shall constitute a first lien in favour of the Crown upon each animal so run or grazed; and the Minister may enforce the lien by the seizure and sale in such manner and at such time as he may deem proper of such of the animals subject to the lien as may be required to realize a sufficient sum to satisfy the full amount owing by the lessee or permittee.

(2) In addition to any of the remedies which the Minister may have, in case default is made in the due payment of any sum owing by a lessee or permittee under any grazing lease or permit with respect to animals run or grazed under any grazing lease or permit or upon any community pasture, the Minister may recover the same by distress upon any goods and chattels of the lessee or permittee wheresoever the same may be found within the Province, in the same manner and subject to the same conditions, exemptions and restrictions as if the amount so owing were taxes payable under the provisions of The Municipal District Act, and all the provisions of that Act relating to distress shall, *mutatis mutandis*, apply to a distress under this section. (R.S.A. 1942, c.153, s.29)

General Provisions

30. Notwithstanding the provisions of any other Act, no fees shall be payable by a municipality which is in a Special Area to any Registrar of Land Titles for any service to the municipality in connection with any letter of search or any search of the General Register, the registration of any transfer of title, the issuance of any certificate of title, or the furnishing of any abstract of title. (R.S.A. 1942, c.153, s.30.)

31. Notwithstanding the provisions of any other Act, no fees shall be payable by a municipality situated in a Special Area in connection with advertising in The Alberta Gazette under the provisions of The Tax Recovery Act. (R.S.A. 1942, c.153, s.31.)

32. The provisions of sections 11 and 12 of The Tax Recovery Act, in so far as they relate to the advertisement of a public auction in a newspaper, shall be deemed to be sufficiently complied with if a notice is inserted in one issue of a newspaper having general circulation in the area published not less than ten days and not more than twenty days before the date of the sale, stating the place and date of the sale and the hour at which the auction shall commence and that a list of the lands to be offered for sale may be inspected at the office of the Board of the Special Area, and specifying where that office is situated. (R.S.A. 1942, c.153, s.32.)

33.-(1) Save and except only as is expressly otherwise provided in this Act, the provisions of The Domestic Animals (Unorganized Territory) Act, shall apply to every Special Area to the extent that the same are not in conflict with any of the provisions of any regulations made pursuant to section 4 of this Act.

(2) In relation to any Special Area all the powers, duties, rights and

capacities which are by The Domestic Animals (Unorganized Territory) Act, The Agricultural Pests Act and The Noxious Weeds Act, conferred or imposed upon the Minister of Agriculture, the Deputy Minister of Agriculture or the Department of Agriculture shall be vested in, conferred upon and imposed upon the Minister of Municipal Affairs, the Deputy Minister of Municipal Affairs, or the Department of Municipal Affairs, as the case may be, as if the last mentioned Minister, Deputy Minister or Department had been named therein. (R.S.A. 1942, c.153, s.33; 1949,c.95,s.10)

34. The Minister shall cause to be prepared a report as to the administration of this Act for each year and it shall be laid on the table of the Legislative Assembly within fifteen days after the commencement of the first Session in the next ensuing year. (R.S.A. 1942, c.153, s.34.)

35. In any case in which the Board appointed under The Special Municipal Areas Act of the Statutes of Alberta, 1935, has entered into any arrangement otherwise than by means of a formal lease whereby any right was given to any person to use any land for the period of one year or for an indefinite period or both, every such arrangement shall be subject to the condition that the same shall be determined immediately upon the Minister sending to that person by registered mail at his last known post office address a notice in writing terminating the arrangement, and upon the thirtieth day after the date of the mailing of any such notice or at such later date as may be specified in the notice for that purpose, the arrangement shall forthwith cease and determine and the Minister shall be entitled to the vacant possession of the land to which the arrangement relates.
(R.S.A. 1942, c.153, s.35.)

36. Every person who contravenes any order or regulation made pursuant to this Act shall be guilty of an offence and liable on summary conviction to a fine of not more than one hundred dollars and costs and in default of

payment to imprisonment for not more than two months.
(R.S.A. 1942, c.153, s.36.)

37. For the purpose of carrying out the provisions of this Act according to their true intent, and of supplying any deficiency therein, the Lieutenant Governor in Council may make regulations not inconsistent with the intent and spirit of this Act, which shall have the same force and effect as if incorporated therein. (R.S.A. 1942, c.153, s.37.)

38. All leases, licenses, permits and agreements of any nature whatsoever issued or made pursuant to the provisions of this Act may be executed on behalf of the Crown by the Minister, or by any other person authorized for the purpose by the Minister in writing. (R.S.A. 1942, c.153, s.38.)

39.-(1) In case any conflict arises between any of the provisions of this Act and any of the provisions of any other Act, the provisions of this Act shall prevail.

(2) In case any conflict arises between the provisions of any regulation made pursuant to section 4 of this Act and any of the provisions of The Domestic Animals (Unorganized Territory) Act, the provisions of such regulations shall prevail. (R.S.A. 1942, c.153, s.39.)

1951

CHAPTER 83

An Act to amend The Special Areas Act

(Assented to April 7, 1951)

His Majesty, by and with the advice and consent of the Legislative Assembly of the Province of Alberta, enacts as follows:

1. The Special Areas Act, being chapter 153 of the Revised Statutes of Alberta, 1942, is hereby amended.

2. Section 4, clause (e) is amended by adding immediately after the word "land" the words "or personal property".

3. Section 7, clause (a) is amended by adding immediately after the words "the land" the words "and other property".

4. Section 12 is repealed.

5. The following new section 15a is added immediately after section 15,--

"15a. Every public road, highway, street and lane in a special area shall be subject to the direction, control and management of the Minister."

6. Section 19 is struck out and the following is substituted:

"19. (1) As soon as may be in each year the Provincial Auditor shall prepare a statement of all revenues and expenditures, liabilities and assets of the special areas for the financial year ending on the immediately preceding thirty-first day of December and shall submit the statement to the Minister.

"(2) Upon receipt of the statement referred to in subsection (1), the Minister shall forthwith cause it to be submitted to the Legislative Assembly, if it is then in session, or if it is not then in seesion, then within fifteen days after the opening of the next session.

"(3) All revenue derived from public lands of a class designated

school lands shall be payable to the General Revenue Fund of the Province".

7. Section 34 is struck out and the following is substituted:

"34. In each year the Minister shall cause to be prepared a report as to the administration of this Act for the preceding year and it shall be laid on the table of the Legislative Assembly, if it is then in session, or if it is not then in session, then within fifteen days of the opening of the next session."

8. This Act shall come into force on the day upon which it is assented to.

1953

CHAPTER 107

An Act to amend The Special Areas Act

(Assented to April 2, 1953)

Her Majesty, by and with the advice and consent of the Legislative Assembly of the Province of Alberta, enacts as follows:

1. The Special Areas Act, being chapter 153 of the Revised Statutes of Alberta, 1942, is hereby amended.

2. Section 28 is amended by striking out the words "The Domestic Animals (Unorganized Territory) Act" and by substituting the words "The Improvement Districts Stray Animals Act".

3. Section 33 is amended by striking out the words "The Domestic Animals (Unorganized Territory) Act", where they occur in subsections (1) and (2) and by substituting the words "The Improvement Districts Stray Animals Act".

4. Section 39 is amended by striking out the words "The Domestic Animals (Unorganized Territory) Act" and by substituting the words "The Improvement Districts Stray Animals Act".

5. This Bill comes into force on the first day of July, 1953.

APPENDIX B

For copies of regulations of the Government of the Province of Alberta regarding the following see inside back pocket:

1. Grazing Leases (Special Areas), 1954.
2. The Issue of Grazing Permits on Public Lands within the Special Areas, 1950.
3. The Issue of Cultivation Leases on Public Lands within the Special Areas, 1950.
4. The Issue of Cultivation Permits on Public Lands within the Special Areas, 1950.
5. The Issue of Irrigation Leases on Public Lands within the Special Areas, 1951.
6. The Issue of Miscellaneous Leases on Public Lands within the Special Areas, 1950.

APPENDIX C

Maps and Statistical Data
Pertaining to Land Use

TABLE IX

WHEAT YIELDS FOR VARIOUS SOIL TYPES BY PERIODS*
1921-36, 1921-28, 1929-36**

	1921-36	1921-28		1929-36		
	Bus.	Bus.	% 1921-36	Bus.	% 1921-36	% 1921-28
			Brown Zone			
Medium to Heavy	11.9	16.6	139	6.8	57	41
Medium	11.3	15.8	140	6.7	59	42
Light to Medium	9.0	11.8	131	5.9	66	50
Medium (Solonized)	9.1	13.5	148	4.8	53	36
Light	8.3	12.4	129	4.4	53	35
All Soil Types	9.9	14.0	141	5.7	58	41
			Dark Brown Zone			
Medium to Heavy	15.4	20.6	134	6.8	44	33
Medium	12.6	16.6	132	8.0	63	48
Light to Medium	10.6	13.5	127	7.0	66	52
Medium (Solonized)	9.4	12.2	130	6.2	66	51
Light	8.5	12.3	145	4.9	58	40
All Soil Types	11.3	15.0	133	6.6	58	44

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*A. Stewart and W. D. Porter, Land Use Classification in the Special Areas of Alberta and in Rosenheim and Acadia Valley, Dominion Department of Agriculture, Publication No. 731, Technical Bulletin No. 39, (Ottawa, 1942), 44.

**Sounding Creek 1922-35, 1922-28, 1929-35.

TABLE X

AVERAGE WHEAT YIELDS BY AREAS AND LAND CLASSES.[*] 1921-36[**]

	Land Class I		Land Class II		Land Class III		Land Class IV		All Land Classes
	Bus.	% Class II	Bus.	% Class II	Bus.	% Class II	Bus.	% Class II	Bus.
Neutral Hills[***]	9.9	92	10.8	100	13.0	120	14.4	133	11.5
Sullivan Lake	9.2	84	9.8	100	11.4	116	14.9	152	9.5
Sounding Creek[#]	10.7	89	12.0	100	14.8	123	14.5	121	11.6
Berry Creek	8.1	79	10.2	100	11.3	111	--	--	8.7
Tilley East	9.1	88	10.3	100	12.6	122	--	--	10.3
Bow West	7.8	74	10.5	100	13.0	124	15.3	146	10.8

[*] A. Stewart and W. D. Porter, op. cit., 45.

[**] Sounding Creek Average 1922-35.

[***] Including 6 townships in Rosenheim.

[#] Including Acadia Valley.

TABLE XI

LAND CLASSES AND POPULATION BY TOWNSHIPS

Township	Range	Class I	Class II	Class III	Class IV	Lake	1951 Population
19	2(part)	9½	-	-	-	-	-
20	1(part)	5½	-	-	-	-	8*
20	2(part)	29	6½	-	-	-	63
20	3(part)	18	-	-	-	-	-
20	4(part)	18	-	-	-	-	3
20	5(part)	18	-	-	-	-	-
20	6(part)	18	-	-	-	-	-
20	7(part)	18	-	-	-	-	1
20	8(part)	18	-	-	-	-	4
20	9(part)	15	3	-	-	-	4
20	10(part)	10¾	7¼	-	-	-	55*
21	1(part)	19½	1	-	-	-	6*
21	2	14¼	21¾	-	-	-	53
21	3	36	-	-	-	-	-
21	4	34	2	-	-	-	42
21	5	33¼	2¾	-	-	-	72
21	6	36	-	-	-	-	5
21	7	36	-	-	-	-	5

* adjusted according to land area and present population (1956).

Computed from Land Classification Map, Appendix C, Figure 5, and from 1951 Dominion Census figures, with adjustments to allow for boundary changes. (Incorporated towns not included).

In sections per township.

TABLE XI (continued)

Township	Range	Class I	Class II	Class III	Class IV	Lake	1951 Population
21	8	31¼	4¾	-	-	-	20
21	9	27¼	8¾	-	-	-	29
21	10	32	4	-	-	-	22
21	11(part)	27	-	-	-	-	4
21	12(part)	12¾	-	-	-	-	1
22	1	20½	15½	-	-	-	21
22	2(part)	17¼	16¼	-	-	-	93
22	3(part)	33½	-	-	-	-	10
22	4	30¾	5¼	-	-	-	15
22	5	36	-	-	-	-	4
22	6	36	-	-	-	-	31
22	7	36	-	-	-	-	25
22	8	36	-	-	-	-	7
22	9	36	-	-	-	-	1
22	10	36	-	-	-	-	4
22	11	36	-	-	-	-	7
22	12(part)	32½	-	-	-	-	34
22	13(part)	30	-	-	-	-	12
22	14(part)	7	-	-	-	-	-
23	1(part)	13½	-	-	-	-	-
23	2(part)	2	-	-	-	-	-
23	3(part)	2	-	-	-	-	-
23	4	36	-	-	-	-	3

TABLE XI (continued)

Township	Range	Class I	Class II	Class III	Class IV	Lake	1951 Population
23	5	36	-	-	-	-	1
23	6	34	2	-	-	-	17
23	7	36	-	-	-	-	30
23	8	36	-	-	-	-	3
23	9	36	-	-	-	-	7
23	10	36	-	-	-	-	3
23	11	36	-	-	-	-	6
23	12	35½	½	-	-	-	27
23	13	36	-	-	-	-	31
23	14(part)	30½	-	-	-	-	2
24	4	36	-	-	-	-	16
24	5	29½	6½	-	-	-	37
24	6	32	4	-	-	-	27
24	7	36	-	-	-	-	-
24	8	36	-	-	-	-	15
24	9	36	-	-	-	-	20
24	10	36	-	-	-	-	-
24	11	34¾	-	-	-	1¼	12
24	12	33¾	2¼	-	-	-	13
24	13	36	-	-	-	-	13
24	14(part)	35	-	-	-	-	11
24	15(part)	2½	-	-	-	-	12
25	4	30	6	-	-	-	47
25	5	26¾	9¼	-	-	-	51

TABLE XI (continued)

Town-ship	Range	Class I	Class II	Class III	Class IV	Lake	1951 Population
25	6	21½	14½	-	-	-	47
25	7	32¼	3¾	-	-	-	18
25	8	31¼	4¾	-	-	-	4
25	9	28¾	7¼	-	-	-	18
25	10	36	-	-	-	-	7
25	11	33¾	1¾	-	-	½	23
25	12	35	1	-	-	-	46
25	13	36	-	-	-	-	2
25	14	36	-	-	-	-	22
25	15(part)	32	-	-	-	-	20
25	16(part)	5	-	-	-	-	-
26	4	24¾	11¼	-	-	-	63
26	5	17¼	18¾	-	-	-	33
26	6	35¼	¾	-	-	-	22
26	7	32¼	3¾	-	-	-	21
26	8	34	2	-	-	-	9
26	9	28	8	-	-	-	41
26	10	32½	3½	-	-	-	21
26	11	34¼	1¾	-	-	-	14
26	12	32¾	3¼	-	-	-	20
26	13	34¼	1¾	-	-	-	3
26	14	35	1	-	-	-	19
26	15	26½	9½	-	-	-	17

TABLE XI (continued)

Town-ship	Range	Class I	Class II	Class III	Class IV	Lake	1951 Population
26	16(part)	30¾	3	-	-	-	14
26	17(part)	5	-	-	-	-	2
27	1	29	6¼	¾	-	-	25
27	2	30	6	-	-	-	32
27	3	25¼	10¾	-	-	-	58
27	4	29¼	6¾	-	-	-	70
27	5	24¼	11¼	-	-	-	71
27	6	33	3	-	-	-	24
27	7	27½	8½	-	-	-	37
27	8	29¼	6¾	-	-	-	17
27	9	29¾	6¼	-	-	-	27
27	10	35¼	¾	-	-	-	13
27	11	36	-	-	-	-	8
27	12	35	1	-	-	-	84
27	13	35	1	-	-	-	5
27	14	35½	½	-	-	-	17
27	15	34	2	-	-	-	16
27	16	28¼	7¾	-	-	-	15
27	17(part)	31¼	-	-	-	-	68
27	18(part)	9	-	-	-	-	6*
28	1	9	7¼	16¼	3½	-	56
28	2	30½	3¾	1¾	-	-	114
28	3	24	12	-	-	-	47

TABLE XI (continued)

Township	Range	Class I	Class II	Class III	Class IV	Lake	1951 Population
28	4	26½	9½	-	-	-	49
28	5	24¼	11¾	-	-	-	80
28	6	22	14	-	-	-	60
28	7	25½	10½	-	-	-	21
28	8	28½	7½	-	-	-	10
28	9	31¼	4¾	-	-	-	36
28	10	32	4	-	-	-	19
28	11	36	-	-	-	-	12
28	12	26¾	3¼	6	-	-	55
28	13	29½	6	½	-	-	33
28	14	33½	2½	-	-	-	25
28	15	26	6	4	-	-	32
28	16	23	3¾	6¼	-	3	20
28	17(part)	26½	2¼	-	-	¼	-
28	18(part)	15½	-	-	-	-	10*
29	1	29¼	6¾	-	-	-	18
29	2	29¼	6¾	-	-	-	27
29	3	32	4	-	-	-	28
29	4	23¼	12¾	-	-	-	63
29	5	33¼	2¾	-	-	-	32
29	6	24	12	-	-	-	34
29	7	18¼	17¾	-	-	-	43
29	8	24¾	11¼	-	-	-	42

TABLE XI (continued)

Township	Range	Class I	Class II	Class III	Class IV	Lake	1951 Population
29	9	30¾	5¼	-	-	-	17
29	10	36	-	-	-	-	13
29	11	36	-	-	-	-	5
29	12	26¾	3½	5¾	-	-	81
29	13	33	2¼	¾	-	-	21
29	14	31¾	3	1¼	-	-	19
29	15	8¾	13¾	12¾	-	¾	144
29	16	9	7¼	14½	2½	2¾	99
30	1	24½	11¼	-	-	¼	27
30	2	15	18¼	2¾	-	-	68
30	3	31¼	4¾	-	-	-	24
30	4	33½	2½	-	-	-	14
30	5	32¼	3¾	-	-	-	21
30	6	29¾	6¼	-	-	-	15
30	7	36	-	-	-	-	9
30	8	36	-	-	-	-	11
30	9	36	-	-	-	-	10
30	10	29¼	6¾	-	-	-	60
30	11	31¾	4¼	-	-	-	30
30	12	36	-	-	-	-	45
30	13	36	-	-	-	-	26
30	14	26	10	-	-	-	61
30	15	9¼	12¾	14	-	-	107

TABLE XI (continued)

Township	Range	Class I	Class II	Class III	Class IV	Lake	1951 Population
30	16(part)	4½	5½	10	4	-	100*
31	1	25¼	8¾	-	-	2	29
31	2	29	7	-	-	-	79
31	3	27½	8½	-	-	-	43
31	4	22¾	13¼	-	-	-	99
31	5	26¼	9¾	-	-	-	94
31	6	27½	8½	-	-	-	61
31	7	36	-	-	-	-	10
31	8	34¾	1¼	-	-	-	23
31	9	34¼	-	-	-	1¾	2
31	10	31¼	3¾	-	-	1	30
31	11	33¼	2¾	-	-	-	24
31	12	35½	½	-	-	-	21
31	13	33¼	2¾	-	-	-	25
31	14	25¾	10¼	-	-	-	149
31	15(part)	6½	11½	12	-	-	50*
32	1	32½	3½	-	-	-	18
32	2	30	6	-	-	-	9
32	3	29¼	6¾	-	-	-	29
32	4	33½	2½	-	-	-	46
32	5	28½	7½	-	-	-	52
32	6	25¾	7¾	-	-	2½	36
32	7	35¼	-	-	-	¾	36

TABLE XI (continued)

Town-ship	Range	Class I	Class II	Class III	Class IV	Lake	1951 Population
32	8	29½	6½	-	-	-	32
32	9	35¼	¾	-	-	-	83
32	10	35½	-	-	-	½	36
32	11	28¼	7¾	-	-	-	42
32	12	26½	9½	-	-	-	59
32	13	20¼	15¾	-	-	-	55
32	14	21¾	12¾	-	-	1½	65
32	15(part)	9	9	6	-	8	44*
33	1	16½	6¼	8¼	5	-	153
33	2	22½	6¾	5¾	1	-	72
33	3	24½	2½	2	-	7	27
33	4	33½	2½	-	-	-	21
33	5	28½	7½	-	-	-	21
33	6	28¼	7¾	-	-	-	38
33	7	24½	11½	-	-	-	89
33	8	26¾	9¼	-	-	-	45
33	9	35¼	-	-	-	¾	47
33	10	31¼	-	-	-	4¾	21
33	11	35¼	¾	-	-	-	32
33	12	31½	4¼	-	-	¼	79
33	13	25	11	-	-	-	83
33	14	21¾	14¼	-	-	-	86
33	15	10	22	4	-	-	161

TABLE XI (continued)

Township	Range	Class I	Class II	Class III	Class IV	Lake	1951 Population
33	16	unclassified					
34	1	25½	10	½	-	-	84
34	2	28	5	3	-	-	74
34	3	20¾	6¾	8	-	½	103
34	4	35½	-	¼	-	¼	12
34	5	31	4	1	-	-	24
34	6	5¾	16¾	13½	-	-	68
34	7	11¼	9¾	15	-	-	41
34	8	12¼	17¾	6	-	-	39
34	9	33½	2½	-	-	-	50
34	10	34¾	-	-	-	1¼	41
34	11	36	-	-	-	-	37
34	12	34½	1¼	-	-	¼	34
34	13	21¼	14¾	-	-	-	68
34	14	16½	5¾	-	-	13¾	33
35	1	24	10½	1½	-	-	132
35	2	34¾	1¼	-	-	-	10
35	3	22½	9½	3¼	¾	-	27
35	4	23¾	5	7¼	-	-	127
35	5	23½	4½	8	-	-	44
35	6	4½	7¾	23¾	-	-	85
35	7	11¼	9¾	15	-	-	99
35	8	19	9¼	7¾	-	-	86

TABLE XI (concluded)

Township	Range	Class I	Class II	Class III	Class IV	Lake	1951 Population
35	9(part)	13¼	11	1¾	-	-	51*
36	2(part)	11	1	-	-	-	16*
36	3(part)	27½	2	½	-	-	8*
36	4	28½	2¼	1	-	4¼	31
36	5	31¾	3¼	¾	-	¼	46
36	6	20¼	6¾	6¾	-	2¼	40
36	7	26¾	5¼	4	-	-	26
36	8	19	9¼	7¾	-	-	55
36	9(part)	13¼	11	1¾	-	-	50*
37	3(part)	17¾	-	-	-	¼	9*
37	4	27¾	-	-	-	8¼	2
37	5	35	1	-	-	-	24
37	6	27½	5¼	2¼	-	1	63
37	7	31¼	4¼	¼	-	¼	30
37	8	16¾	9¼	10	-	-	81
37	9(part)	2¾	1¼	-	-	-	9*

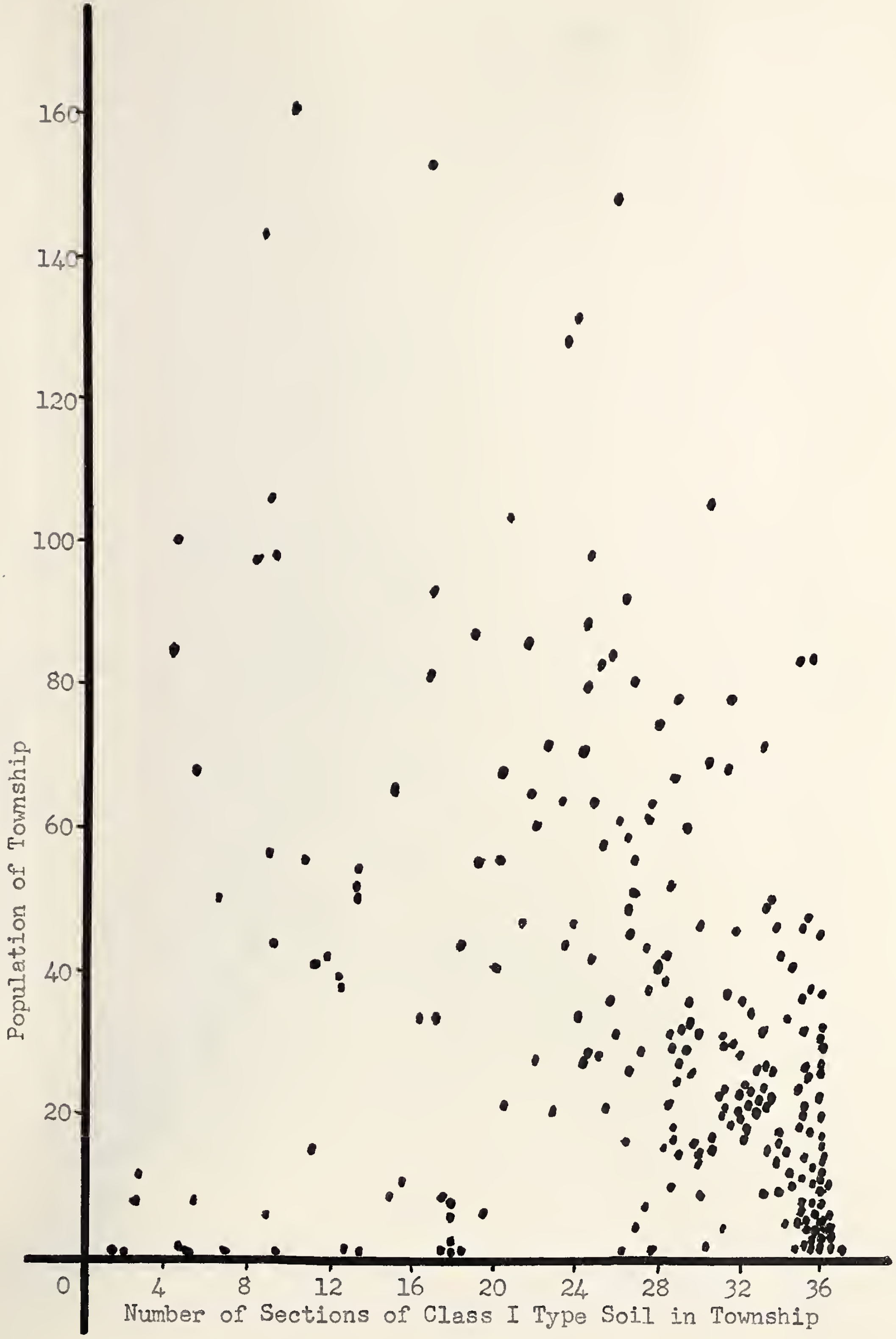


FIGURE 6
POPULATION BY TOWNSHIPS IN THE SPECIAL AREAS
IN TERMS OF SOIL CLASS I, 1951
(241 townships or parts of townships involved)

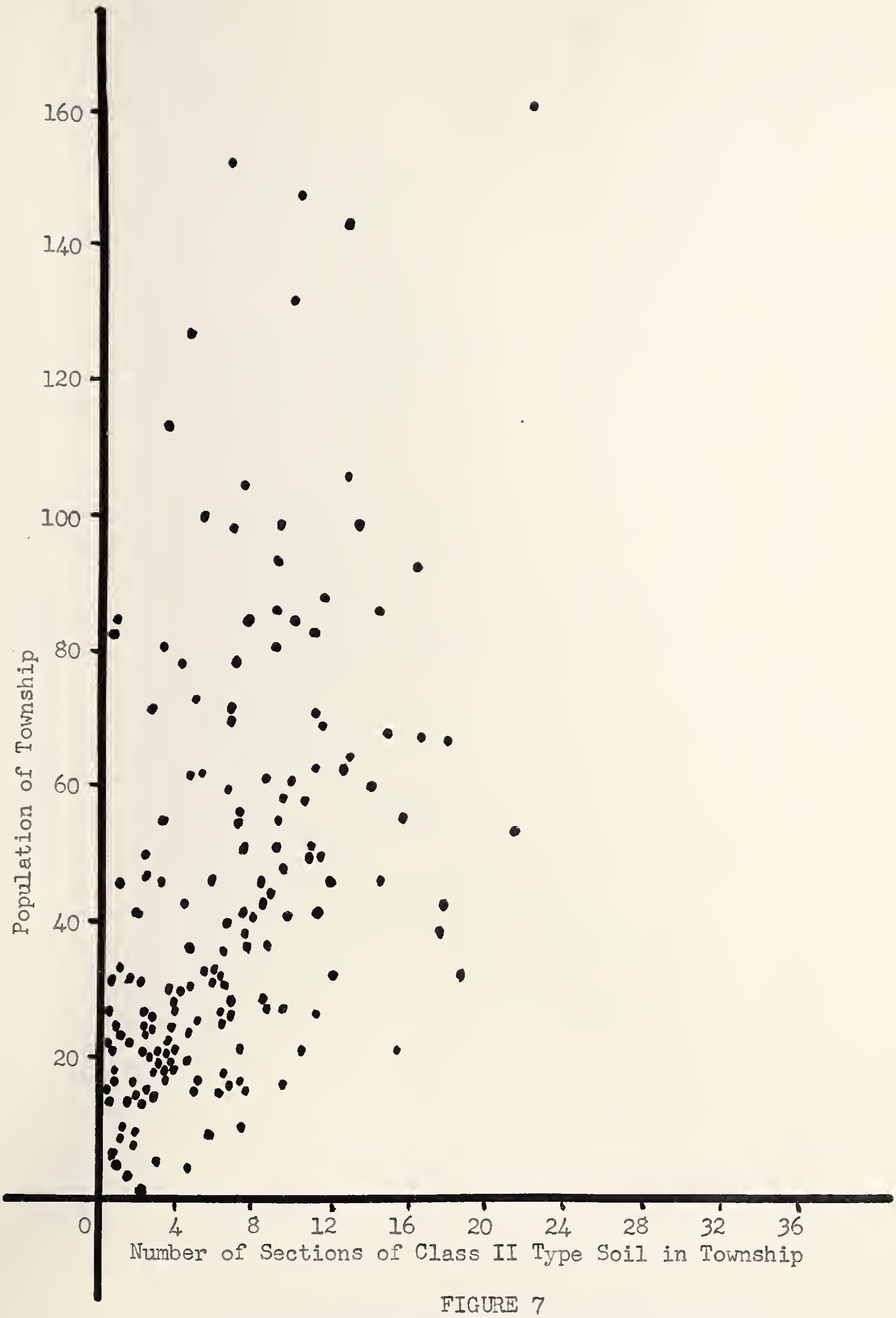


FIGURE 7
POPULATION BY TOWNSHIPS IN THE SPECIAL AREAS
IN TERMS OF SOIL CLASS II, 1951

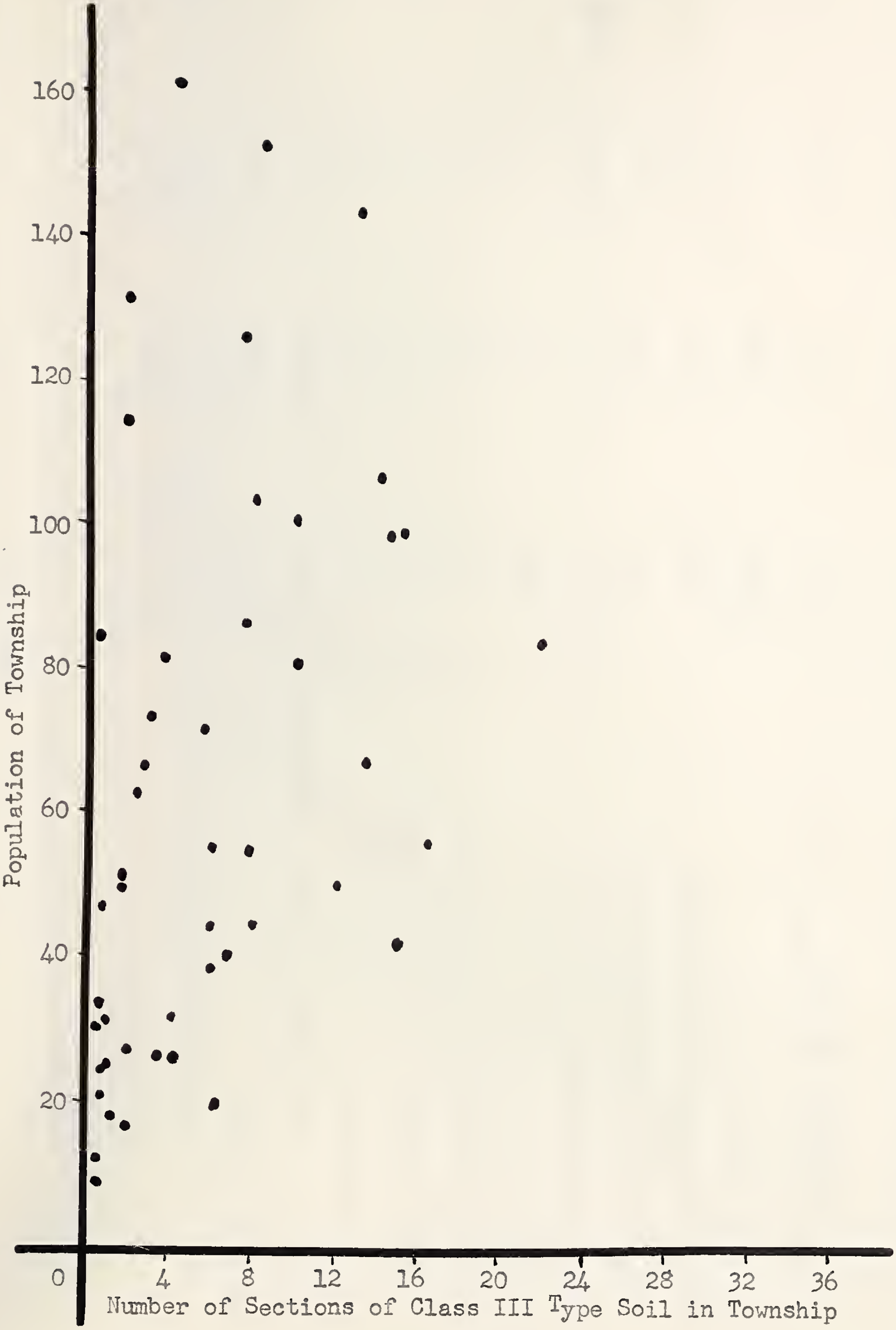


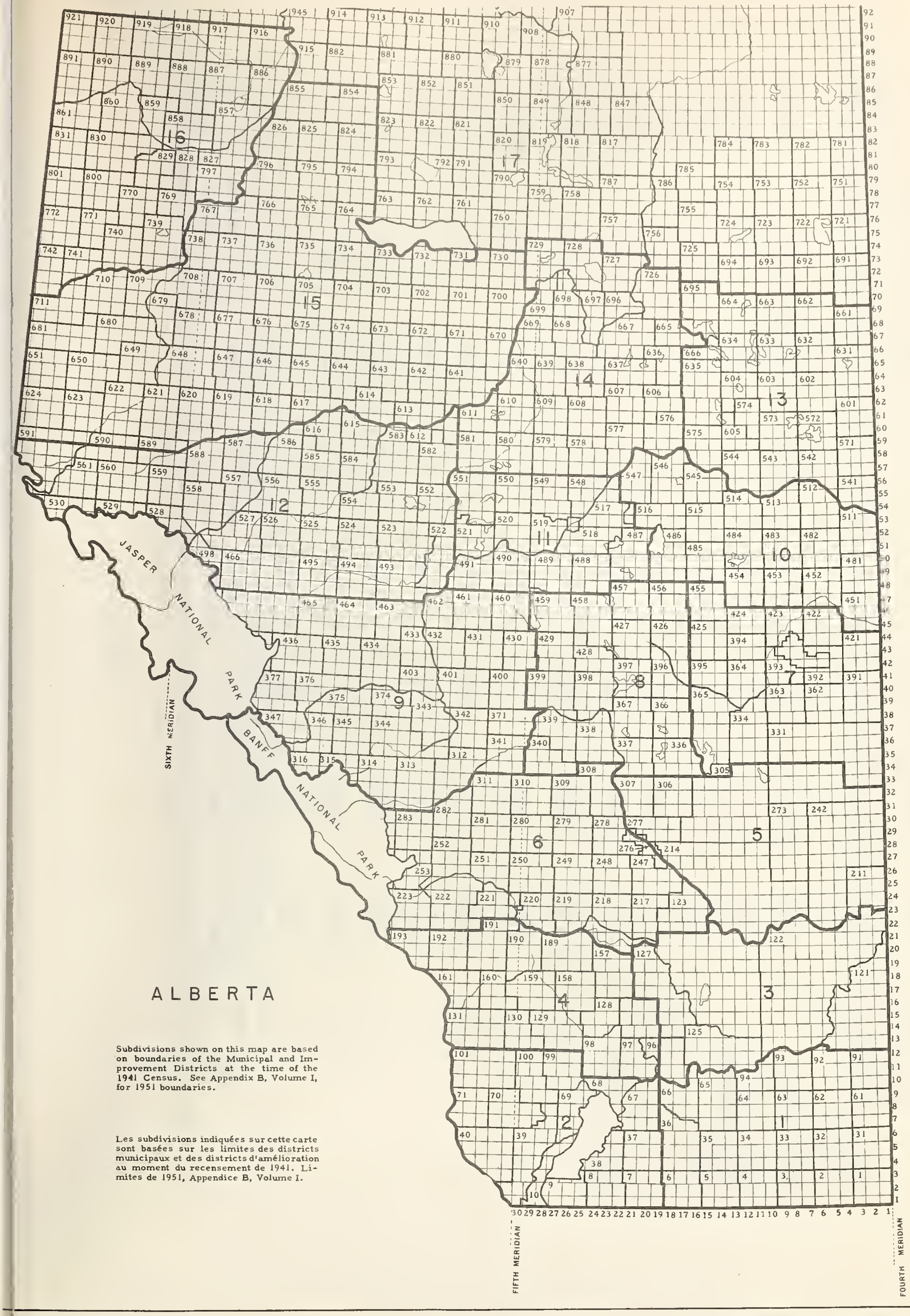
FIGURE 8
POPULATION BY TOWNSHIPS IN THE SPECIAL AREAS
IN TERMS OF SOIL CLASS III, 1951
(47 townships or parts of townships involved)

TABLE XII

ACREAGE IN SPECIAL AREAS SHOWING LAND CLASSIFICATION AS AT DECEMBER 31, 1955

	200 Berry Creek Sullivan Lake	300 Sounding Creek	310 Neutral Hills	Totals
Patented Acreage	664,337	463,861	393,917	1,522,115
Cultivation Lease Acreage (Except School Lands)	100,347	177,808	83,106	361,261
School Land Cultivation Lease Acreage	7,327	8,776	7,965	24,068
Cultivation Permit Acreage (Except S.L.)	3,253	17,217	6,353	26,823
School Land Cultivation Permit Acreage	Nil	480	Nil	480
Irrigation Lease Acreage	2,047	314	60	2,421
Grazing Lease Acreage (Except S.L.)	1,343,457	818,483	511,601	2,673,541
Grazing Permit Acreage (Except S.L.)	6,734	15,678	31,548	53,960
School Land Grazing Permit Acreage	7,438	12,372	14,218	34,028
Community Pasture Acreage	128,696	43,085	Nil	171,781
Acreage of Land subject to, but not yet Classified (Vacant)	50,077	76,661	32,652	159,390
Total Acreage of Lands Classified and not yet Classified	2,313,713	1,634,735	1,081,420	5,029,868

Report prepared for the Special Areas Advisory Committee Meeting, Government of Alberta, Department of Municipal Affairs, Edmonton, January 10, 11 and 12, 1956.



Subdivisions shown on this map are based on boundaries of the Municipal and Improvement Districts at the time of the 1941 Census. See Appendix B, Volume I, for 1951 boundaries.

Les subdivisions indiquées sur cette carte sont basées sur les limites des districts municipaux et des districts d'amélioration au moment du recensement de 1941. Limites de 1951, Appendice B, Volume I.

FIGURE 9
CENSUS MAP OF ALBERTA

TABLE XIII

FARM OPERATORS IN THE SPECIAL AREAS*

Division	Sub-division	Farm Population	Total Operators	Owners	Per cent of Total	Managers	Tenants	Part Owner Part Tenant	Per cent of Total
5	214	739	267	21	7.87	8	37	201	75.28
5	242	1,514	582	85	14.60	2	144	351	60.31
5	273	378	168	15	8.93	1	49	103	61.31
5	305	1,888	587	146	24.87	-	110	331	56.39
7	305	101	42	13	30.95	-	10	19	14.24
5	331	783	271	14	5.17	-	99	158	58.30
7	331	1,868	584	102	17.47	-	136	346	59.25
CENSUS TOTAL		7,271	2,501	396	15.83	11	585	1,509	60.34
3	122pt.**	500	188	30	15.96	1	44	113	60.11
TOTAL		7,771	2,689	426	15.84	12	629	1,622	60.32
Deletions for Small Areas***		453	141	35	24.82	-	26	80	56.74
FINAL TOTAL		7,318	2,548	391	15.35	12 or .46%	603 or 23.67%	1,542	60.52
AVERAGE		2.87							

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*Dominion Bureau of Statistics, Ninth Census of Canada, 1951, Agriculture, Volume VI, Part 2,

**Estimated on basis of information obtained in the area in 1956 and on the averages for the whole area in which census figures are given. See also second footnote under Table XXVI.

***Those fringe areas recently added to various municipalities. Estimates based on subdivision 305 in Division 5 and on actual land area. See also third footnote under Table XXVI.

TABLE XIV

AREA OF OCCUPIED LAND IN ACRES IN THE SPECIAL AREAS[*]

Division	Subdivision	Total Number Operators	Total Area	Average Area per Farm	Area Owned[**]	Per cent Area Owned	Area Rented
5	214	267	1,139,919	4,269	261,659	22.95	878,260
5	242	582	869,962	1,495	283,381	32.57	586,581
5	273	168	339,926	2.023	83,663	24.61	256,263
5	305	587	690,237	1,176	251,401	36.42	438,836
7	305	42	26,446	630	14,033	53.06	12,413
5	331	271	407,516	1,504	85,609	21.01	231,907
7	331	584	719,078	1,231	262,409	36.49	456,669
CENSUS TOTAL		2,501	4,193,084	1,677	1,242,155	29.62	2,950,929
3	122 pt.[***]	188	373,498[#]	1,987	110,645	29.62	262,853
TOTAL		2,689	4,566,582	1,698	1,352,800	29.62	3,213,782
Deletions for Small Areas[***]		141	165,760[##]	1,176	60,373	36.42	105,387
FINAL TOTAL		2,548	4,400,822	1,727	1,292,427	29.37	3,108,395
AVERAGE					507		1,220

[*] Dominion Bureau of Statistics, Ninth Census of Canada, 1951, Agriculture, Volume VI, Part 2, 29-3 to 29-6.

[**] Includes area operated by managers.

[***] See footnotes under Table XIII.

[#] Acreage from 1951 Department of Municipal Affairs records.

[##] Acreage according to number of sections involved.

TABLE XV

SIZE OF FARM IN THE SPECIAL AREAS (in acres)*

Division	Sub-div.	All Occupied Farms	Farms of											Non-resident Farms
			3-9	10-69	70-239	240-399	400-559	560-759	760-1119	1120-1599	1600-2239	2240-2819	2880 and Over	
5	214	267	-	2	11	11	4	13	8	24	31	38	125	28
5	242	582	1	1	26	49	49	73	107	107	88	36	45	111
5	273	168	-	-	3	13	10	17	26	19	27	12	41	40
5	305	587	1	1	33	87	78	68	104	80	58	29	48	75
7	305	42	-	1	4	9	9	4	10	3	2	-	-	9
5	331	271	-	-	16	24	14	17	46	59	43	25	27	40
7	331	584	-	1	35	85	68	54	111	103	64	26	37	105
CENSUS TOTAL		2,501	2	6	128	278	232	246	412	395	313	166	323	408
3	122pt.**	188	-	1	10	21	17	18	31	30	24	12	24	31
TOTAL		2,689	2	7	138	299	249	264	443	425	337	178	347	439
Deletions for Small Areas**		141	-	-	9	21	19	16	25	19	14	7	11	18
FINAL TOTAL		2,548	2	7	129	278	230	248	418	406	323	171	336	421
Per cent of Total			.08	.27	5.06	10.91	9.03	9.73	16.41	15.93	12.68	6.71	13.19	16.52

*Dominion Bureau of Statistics, Ninth Census of Canada, 1951, Agriculture, Volume VI, Part 2, 30-4 to 30-6.

**See footnotes under Table XIII.

TABLE XVI

CLASSIFICATION OF OCCUPIED FARM LAND IN THE SPECIAL AREAS ACCORDING TO PRESENT USE, 1951. UNIMPROVED LAND*

Division	Subdivision	Number of Farms	Total Acres	Average Total Acres per Farm	Woodland	Other	Number of Cattle Sustainable**	
							Total	per Farm
5	214	267	1,032,434	1,703	606	1,031,828	20,637	77
5	242	582	551,367	947	2,502	548,865	10,977	19
5	273	168	248,371	1,478	576	247,795	4,956	30
5	305	587	458,934	782	649	458,285	10,219	17
7	305	42	12,380	295	50	12,330	306	7
5	331	271	298,634	1,102	452	298,182	5,964	22
7	331	584	477,366	817	6,429	470,937	11,563	20
CENSUS TOTAL		2,501	3,079,486	1,231	11,264	3,068,222	64,622	26
3	122 pt.***	188	274,304	1,459	1,003	273,301	5,466	34
TOTAL		2,689	3,353,790	1,247	12,267	3,341,523	70,088	28
Deletions for Small Areas***		141	110,212	782	156	110,056	2,201	16
FINAL TOTAL		2,548	3,243,578	1,273	11,111	3,231,467	67,887	27
Average per Farm			1,273		4	1,268	27	

*Dominion Bureau of Statistics, Ninth Census of Canada, 1951, Agriculture, Volume VI, Part 2, 29-3 to 29-6.

**Calculated from grazing carrying capacity as depicted on Land Classification Map, Appendix C, Figure 5, in back pocket.

***See footnotes under Table XIII.

TABLE XVII

CLASSIFICATION OF OCCUPIED FARM LAND IN THE SPECIAL AREAS ACCORDING TO PRESENT USE, 1951.
IMPROVED LAND*

Division	Subdivision	Total Acres	Average Number Acres per Farm	Under Crops**	Summerfallow	Per cent Cropland in Summerfallow	Pasture	Av.Number Acres in Pasture	Other
5	214	107,485	403	64,349	25,461	39.57	14,809	55	2,866
5	242	318,595	547	185,348	114,781	61.93	13,885	24	4,581
5	273	91,555	545	52,040	31,334	60.21	4,775	28	3,406
5	305	231,303	394	142,939	68,019	47.59	15,596	27	4,749
7	305	14,066	335	9,809	3,396	34.62	520	12	341
5	331	108,882	402	64,832	41,426	63.90	1,147	4	1,477
7	331	241,712	414	138,411	85,160	61.53	12,345	21	5,796
CENSUS TOTAL		1,113,598	445	657,728	369,577	56.19	63,077	29	23,216
3	122pt.***	99,194	528	58,587	32,920	56.18	5,619	34	2,068
TOTAL		1,212,792	451	716,315	402,497	56.19	68,696	26	25,284
Deletions for Small Areas***		55,548	394	34,327	16,335	47.59	3,745	27	1,141
FINAL TOTAL		1,157,244	454	681,988	386,162	56.62	64,951	25	24,143
Average per Farm		454		268	152	56.72	25		9

*Dominion Bureau of Statistics, *Ninth Census of Canada, 1951*, *Agriculture*, Volume VI, Part 2, 29-3 to 29-

**Includes field, garden, orchard and nursery crop land.

***See footnotes under Table XIII.

TABLE XVIII

CLASSIFICATION OF OCCUPIED FARM LAND IN THE SPECIAL AREAS ACCORDING TO PRESENT USE, 1951.
IMPROVED LAND. AVERAGES.*

Division	Sub-division	Average Acres per Farm	Average Acres under Crop	Average Acres in Summerfallow	Per cent Crop Land in Summerfallow	Average Acres in Pasture	Average Acres Other Land
5	214	403	241	96	39.57	55	11
5	242	547	318	197	61.93	24	8
5	273	545	310	187	60.21	28	20
5	305	394	243	116	47.59	27	8
7	305	335	234	81	34.62	12	8
5	331	402	239	152	63.90	4	5
7	331	414	237	146	61.53	21	10
CENSUS TOTAL		445	263	148	56.19	25	9
3	122 pt.**	528	312	175	56.18	30	9
TOTAL		451	266	150	56.19	26	9
Deletions for Small Areas**		394	243	116	47.59	27	8
FINAL TOTAL		454	268	152	56.62	25	9

*Calculated from 1951 Census figures.

**See footnotes below Table XIII.

TABLE XIX

FIELD CROPS IN THE SPECIAL AREAS, 1951*

Division	Sub-division	All Field Crops	Wheat	Average Wheat per Farm	Barley	Average Barley per Farm	Oats	Average Oats per Farm
5	214	64,323	32,771	123	3,175	12	12,065	45
5	242	185,327	142,122	244	9,955	17	17,170	30
5	273	52,032	34,915	208	5,252	31	7,020	42
5	305	142,922	76,860	131	11,133	19	27,144	46
7	305	9,806	3,052	73	845	20	3,410	81
5	331	64,822	22,771	84	15,474	57	16,781	62
7	331	138,408	63,135	108	16,860	28	35,879	61
CENSUS TOTAL		657,640	375,626	150	62,694	25	119,469	48
3	122 pt.**	52,306	29,876	159	4,987	27	9,502	51
TOTAL		709,946	405,502	151	67,681	25	128,971	48
Deletions for Small Areas**		34,322	18,458	131	2,674	19	6,519	46
FINAL TOTAL		675,624	387,044	152	65,007	26	122,452	49

*Dominion Bureau of Statistics, Ninth Census of Canada, 1951, Agriculture, Volume VI, Part 2, 31-4 to 31-6.

**See footnotes under Table XIII.

TABLE XX

TOTAL AND AVERAGE WHEAT YIELDS FOR DISTRICTS IN THE SPECIAL AREAS FOR THE PERIODS 1925 to 1940 and 1941 to 1955 RESPECTIVELY.*

Point	1925-1940 incl.		Average Yield in bushels per acre														
	Number of Years Estimates Made	Total Yield in bushels per acre	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955
Alness	13	162	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Altario	16	174	5	18	4	6	5	8	5	6	6	11	20	20	18	12	20
Anatole	12	106	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Atlee	16	157	5	26	5	2	3	3	6	5	6	5	20	15	19	12	14
Benton	16	174	6	25	8	6	4	18	6	9	8	9	21	25	25	15	19
Bindloss	16	184	10	25	12	4	4	5	8	8	8	4	15	23	23	22	26
Bonar	16	206	6	25	6	7	15	10	6	5	4	16	29	15	18	6	6
Buffalo	16	166	6	18	7	2	3	3	6	3	5	6	20	19	13	13	17
Bullpound	8	94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calthorpe	15	164	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*From material supplied by Mr. R. E. English, Provincial Statistician, Edmonton, and compiled from Appraiser's Manual of Wheat Yields, Sanford-Evans Statistical Service.

TABLE XX (continued)

Point	1925-1940 incl.		Average Yield in bushels per acre														
	Number of Years Estimates Made	Total Yield in bushels per acre	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955
Carolside	16	125	1	24	4	5	5	4	3	4	3	9	15	16	16	11	11
Cavendish	16	167	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cereal	16	153	4	18	4	4	5	10	6	5	6	8	20	20	19	12	19
Cessford	15	131	1	20	2	2	4	4	7	4	5	8	18	15	24	13	11
Chinook	16	150	4	19	5	3	3	7	4	3.5	5	8	20	15	18	10	17
Compeer	16	181	5	20	3	10	7	7	4	7	4	12	25	22	20	13	20
Consort	16	167	5	20	5	9	5	14	5	6	3	20	21	21	25	15	19
Darnley	4	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dobson	16	142	-	-	4	3	4	7	4	4	5	15	24	18	21	--	-
Dorothy	12	110	5	25	15	9	7	18	12	16	7	8	20	30	25	15	20
Dowling	15	197	6	24	10	9	5	15	7	8	3	15	30	20	10	12	17
Empress	16	170	11	23	13	4	7	10	11	11	9	6	18	28	29	23	30
Esther	14	156	5	24	4	5	6	8	6	5	9	12	20	24	21	15	26

TABLE XX (continued)

Point	1925-1940 incl.		Average Yield in bushels per acre														
	Number of Years Estimates Made	Total Yield in bushels per acre	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955
Excel	16	171	5	20	8	7	4	12	7	5	8	12	17	20	22	13	17
Fenner	5	44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Finnegan	11	110	5	25	7	4	4	7	10	10	8	10	24	25	25	18	25
Garden Plain	7	82	5	22	5	8	3	11	7	5	2	15	29	20	8	16	13
Halliday	13	117	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Halsbury	16	137	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hanna	16	163	6	25	6	4	4	15	8	11	3	12	16	22	19	10	17
Helmsdale	16	311	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hemaruka	15	142	6	25	6	6	4	10	4	6	1	15	20	18	15	11	15
Iddesleigh	16	144	4	19	2	2	2	4	8	7	7	5	11	20	16	9	15
Jenner	16	144	4	18	2	3	2	4	11	6	5	5	14	25	22	10	25
Kirriemuir	16	187	5	17	4	4	4	6	17	4	7	20	25	19	22	14	22
Lanfine	16	181	5	22	16	4	7	12	22	16	11	9	19	25	22	12	21
Little Gem	14	114	4	24	5	5	4	10	24	5	5	14	24	15	21	-	-

TABLE XX (continued)

Point	1925-1940 incl.		Average Yield in bushels per acre														
	Number of Years Estimates Made	Total Yield in bushels per acre	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955
Loyalist	16	188	5	20	6	10	6	9	5	5	3	12	22	15	26	13	17
Monitor	16	178	7	25	7	10	3	8	4	7	5	15	19	18	20	13	25
Naco	15	144	5	20	5	5	3	8	4	6	3	13	20	14	15	11	15
New Brigden	15	155	6	28	4	4	3	8	4	5	9	16	20	20	15	17	18
Oyen	16	166	6	24	8	4	5	11	7	5	7	9	20	20	17	15	20
Pemukan	16	218	5	20	6	8	4	10	4	6	6	25	20	25	25	16	22
Pollockville	14	112	3	18	4	2	2	4	5	3	3	10	24	20	21	14	8
Reist	3	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Richdale	16	181	5	28	4	7	4	10	4	4	1	14	17	19	25	9	17
Rose Lynn	15	167	4	18	5	5	3	8	5	4	2	12	14	20	11	10	11
Scapa	15	166.5	7	27	7	10	8	13	19	9	1	12	22	19	10	12	15
Scotfield	15	158	5	14	4	4	4	7	4	5	1	18	25	15	10	6	9
Sedalia	15	160	6	25	5	4	3	8	4	4	8	19	20	18	16	8	20
Sharrow	16	175	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE XX (concluded)

Point	1925-1940 incl.		Average Yield in bushels per acre														
	Number of Years Estimates Made	Total Yield in Bushels per acre	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955
Sheerness	14	151.5	6	20	6	5	3	10	5	5	3	14	24	20	21	15	11
Sibbald	16	191	8	25	7	3	5	9	7	9	9	9	24	25	25	15	20
Spondin	7	60.5	6	27	6	6	3	9	5	4	1	15	24	15	12	8	12
Stanmore	16	169	4	25	3	6	2	6	5	6	1	15	16	17	19	7	13
Sunnynook	15	115	2	25	3	3	3	7	3	5	3	7	15	18	14	12	10
Taplow	13	128	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trefoil	10	96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Veteran	16	206	5	20	6	12	6	14	5	7	2	16	19	17	20	13	17
Wardlow	14	126	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Watt Lake	3	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Watts	16	197	7	25	7	9	5	19	12	11	5	12	25	25	24	15	18
Whatcheer	3	45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Youngstown	-	-	7	15	4	4	3	7	6	4	5	12	20	18	10	9	15

TABLE XXI

TOTAL AND AVERAGE WHEAT YIELDS FOR ALBERTA POINTS BORDERING THE SPECIAL AREAS*

Point	1925-1940 incl.		Average Yield in bushels per acre														
	Number of Years Estimates Made	Total Yield in bushels per acre	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955
Hilda	16	182	10	20	4	3	4	5	9	8	4	7	13	25	22	15	27
Medicine Hat	16	196	12	20	5	10	5	15	15	6	5	8	20	25	20	16	25
Millicent**	16	370	25	45	28	22	29	30	35	33	30	28	33	35	25	28	30
Gem**	10	193	15	25	20	25	35	23	24	26	27	30	36	33	30	20	25
Tilley**	16	380	20	20	25	20	25	29	32	26	26	19	29	23	20	15	29
Makepeace	16	161	5	20	10	9	4	10	8	19	10	12	32	25	30	23	25
Standard	16	258	8	30	18	11	13	22	14	24	14	19	28	32	31	18	25
Beynon	16	272	7	20	20	20	14	20	14	16	15	19	32	30	40	20	26
Delia	16	201	7	27	12	12	8	20	29	26	4	17	30	25	18	15	20
Endiang	18	190	8	30	10	19	5	12	10	14	4	21	27	23	19	12	17
Coronation	16	188	5	25	10	18	6	13	9	8	3	25	15	22	21	12	19
Czar	16	216	5	18	14	19	7	12	8	8	4	25	26	25	23	17	18
Provost	16	195	6	10	9	15	10	17	11	7	3	20	30	27	22	12	25

*From material supplied by Mr. R. E. English, Provincial Statistician, Edmonton, and compiled from Appraiser's Manual of Wheat Yields, Sanford-Evans Statistical Service.

TABLE XXII

AVERAGE WHEAT YIELDS FOR VARIOUS POINTS WITHIN CENSUS SUBDIVISIONS IN THE SPECIAL AREAS *

Location	1925-40	1951-55	1941-55	1925-55
Division 5 Subdivision 214				
Bullpound	11.75	---	---	---
Carolside	7.81	13.80	8.73	8.26
Cessford	8.73	16.20	9.20	8.97
Dorothy	9.17	22.00	15.47	12.67
Finnegan	10.00	23.40	13.80	12.19
Halliday	9.00	---	---	---
Pollockville	8.00	17.40	9.40	8.72
Rose Lynn	11.13	14.20	9.13	10.13
Sunnynook	7.67	13.80	8.67	8.17
Trefoil	9.60	---	---	---
Wardlow	9.00	---	---	---
Average	9.26	17.26	10.63	9.87

*From material supplied by Mr. R. E. English, Provincial Statistician, Edmonton, and compiled from Appraiser's Manual of Wheat Yields, Sanford-Evans Statistical Service.

TABLE XXII (continued)

AVERAGE WHEAT TIELDS FOR VARIOUS POINTS WITHIN CENSUS SUBDIVISIONS IN THE SPECIAL AREAS

Location	1925-40	1951-55	1941-55	1925-55
Division 5 Subdivision 242				
Anatole	8.83	---	---	---
Benton	10.875	21.00	13.60	12.19
Calthorpe	10.93	---	---	---
Cereal	9.56	18.00	10.67	10.10
Esther	11.14	20.80	12.53	11.86
Excel	10.69	17.80	11.80	11.23
Helmsdale	19.44	---	---	---
Lanfine	11.31	19.80	14.87	13.03
Naco	9.60	15.00	9.80	9.70
New Brigden	10.33	18.00	11.80	11.07
Oyen	10.375	18.40	11.87	11.10
Sedalia	10.67	16.40	11.20	10.93
Sibbald	11.94	21.80	13.33	12.61
Average	11.21	18.70	12.12	11.38

TABLE XXII (continued)

AVERAGE WHEAT YIELDS FOR VARIOUS POINTS WITHIN CENSUS SUBDIVISIONS IN THE SPECIAL AREAS

Location	1925-40	1951-55	1941-55	1925-55
Division 5 Subdivision 273				
Chinook	9.375	16.00	9.43	9.40
Darnley	6.75	---	---	---
Dobson	8.875	12.60	7.27	8.10
Youngstown	---	14.40	9.27	9.27
Average	8.33	14.33	8.66	8.92

TABLE XXII (continued)

AVERAGE WHEAT YIELDS FOR VARIOUS POINTS WITHIN CENSUS SUBDIVISIONS IN THE SPECIAL AREAS

Location	1925-40	1951-55	1941-55	1925-55
Division 5 Subdivision 305				
Alness	12.46	---	---	---
Bonar	12.375	14.80	11.60	12.26
Dowling	13.13	17.80	12.73	12.93
Fenner	8.80	---	---	---
Garden Plain	11.71	17.20	11.27	11.41
Hanna	10.19	16.80	11.87	11.00
Reist	8.33	---	---	---
Richdale	11.31	17.40	11.20	11.26
Scapa	11.10	15.60	12.73	11.92
Scotfield	10.53	13.00	8.73	9.63
Sheerness	10.82	18.20	11.20	11.02
Spondin	8.64	14.20	10.20	9.70
Stanmore	10.56	14.40	9.67	10.13
Taplow	9.84	---	---	---
Watt lake	8.67	---	---	---
Watts	12.31	21.40	14.60	13.42
Watcheer	15.00	---	---	---
Average	10.96	16.43	11.44	11.33

TABLE XXII (continued)

AVERAGE WHEAT YIELDS FOR VARIOUS POINTS WITHIN CENSUS SUBDIVISIONS IN THE SPECIAL AREAS

Location	1925-40	1951-55	1941-55	1925-55
Division 7 Subdivision 305*				
Garden Plain	11.71	17.40	11.27	11.41
Scapa	11.13	15.60	12.73	11.92
Spondin	8.64	14.20	10.20	9.25
AVERAGE	10.49	15.73	11.40	10.86
Division 5 Subdivision 331				
Hemaruka	9.47	15.80	10.80	10.13
Little Gem	8.14	12.00	10.67	9.45
AVERAGE	8.80	13.90	10.735	9.79

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*No wheat yields are available for this area. The three points shown are those closest to the area.

TABLE XXII (continued)

AVERAGE WHEAT YIELDS FOR VARIOUS POINTS WITHIN CENSUS SUBDIVISIONS IN THE SPECIAL AREAS

Location	1925-40	1951-55	1941-55	1925-55
Division 7 Subdivision 331				
Altario	10.875	18.00	10.93	10.56
Compeer	11.31	20.00	11.93	11.29
Consort	10.44	24.40	12.87	11.61
Kirriemuir	11.69	20.40	12.67	12.16
Loyalist	11.75	18.60	11.60	11.68
Monitor	11.125	19.00	12.40	11.74
Pemukan	13.625	21.60	13.47	13.55
Veteran	12.875	17.20	11.93	12.42
Average	11.71	19.90	12.225	11.88

TABLE XXII (concluded)

AVERAGE WHEAT YIELDS FOR VARIOUS POINTS WITHIN CENSUS SUBDIVISIONS IN THE SPECIAL AREAS

Location	1925-40	1951-55	1941-55	1925-55
Division 3 Subdivision 122				
Atlee	9.81	16.00	9.73	9.77
Bindloss	11.50	21.80	13.13	12.29
Buffalo	10.375	16.40	9.40	9.90
Cavendish	10.44	---	---	---
Empress	10.625	25.60	15.53	13.00
Halsbury	8.56	---	---	---
Iddesleigh	9.00	14.20	8.73	8.87
Jenner	9.00	19.20	10.40	9.68
Sharrow	10.64	---	---	---
Average	10.03	18.87	11.15	10.59
AVERAGE YIELD FOR ALL POINTS	10.58	17.70	11.36	10.91

TABLE XXIII

AVERAGE WHEAT YIELDS FOR VARIOUS POINTS IN THE SAME GENERAL REGION AS THE SPECIAL AREAS AND SURROUNDING THEM IN A HORSE SHOE PATTERN ON THE SOUTH, WEST AND NORTH

Location	1925-40	1951-55	1941-55	1925-55
Hilda	11.38	20.40	11.73	11.55
Medicine Hat	12.25	21.20	13.80	13.00
Makepeace	10.06	27.00	16.13	13.00
Standard	16.125	26.80	20.47	18.23
Beynon	17.00	29.60	20.87	18.88
Delia	12.56	21.60	18.00	15.19
Endiang	12.67	19.60	15.40	14.51
Coronation	17.75	17.80	14.07	12.87
Czar	13.50	21.80	15.27	14.35
Provost	12.19	23.20	14.93	13.51
Average	13.55	22.90	16.07	14.51

TABLE XXIV

AVERAGE WHEAT YIELDS FOR THE THREE IRRIGATION REGIONS CLOSE TO THE SPECIAL AREAS

Location	1925-40	1951-55	1941-55	1925-55
Millicent	23.13	30.30	30.40	26.64
Gem	19.30	28.80	26.27	23.48
Tilley	23.75	23.32	23.86	23.81
Average	22.06	27.44	26.84	24.64

TABLE XXV

FIELD CROPS IN THE SPECIAL AREAS, 1951[*]

Division	Sub-div.	Rye	Average Rye per Farm	Flax for Seed	Mixed or Other Grains	Cultivated Hay	Average Cultivated Hay per Farm	Other Fodder Crops	Potatoes	Other Field Roots
5	214	4,964	19	703	451	7,651	29	2,524	19	--
5	242	7,533	13	361	292	4,298	7	3,533	62	1
5	273	1,399	8	446	--	2,274	14	717	9	--
5	305	9,595	16	1,116	230	14,693	25	2,095	55	1
7	305	267	6	--	--	1,657	39	574	1	--
5	331	2,276	8	35	--	7,192	27	270	22	1
7	331	6,275	11	169	190	13,453	23	2,336	109	2
CENSUS TOTAL		32,309	13	2,830	1,163	51,218	20	12,049	277	5
3	122pt.[**]	2,570	14	225	92	4,074	22	958	22	--
TOTAL		34,879	13	3,055	1,255	55,292	21	13,007	299	5
Deletions for Small Areas[**]		2,304	16	268	55	3,528	25	503	13	--
FINAL TOTAL		32,575	13	2,787	1,200	51,764	20	12,504	286	5
Average Acres per Farm		12.78		1.09	.47	20.31		4.91	.11	.001

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[*] Dominion Bureau of Statistics, Ninth Census of Canada, 1951, Agriculture, Volume VI, Part 2, 31-4 to 31-6.

[**] See footnotes under Table XIII.

TABLE XXVI

DISTRIBUTION OF CATTLE WITHIN THE SPECIAL AREAS, 1951. SIZE OF HERDS*

Division	Sub-division	Total Farms	Farms with no Cattle	Number of Farms Reporting Herds of Cattle of Size Indicated											
				1	2	3-7	8-12	13-17	18-32	33-47	48-62	63-77	78-122	123-177	178+
5	214	267	40	4	2	12	10	12	26	25	24	19	42	19	32
5	242	582	163	11	19	61	56	40	103	61	24	15	22	5	2
5	273	168	51	3	2	12	13	9	20	17	11	8	16	5	1
5	305	587	93	5	9	40	57	63	120	70	52	23	34	16	5
5	331	271	42	-	6	25	16	21	61	44	18	16	18	2	2
7	305	42	4	-	1	4	5	3	6	6	9	3	1	-	-
7	331	584	100	6	13	52	52	38	130	71	42	26	36	9	9
CENSUS TOTAL		2,501	493	29	52	206	209	186	466	294	180	110	169	56	51
3**	122pt.	188	32	2	4	15	16	14	35	22	14	8	13	4	4
TOTAL		2,689	525	31	56	221	225	200	501	316	194	118	182	60	55
Deletions***		141	23	1	2	10	14	15	29	17	12	6	8	3	1
FINAL TOTAL		2,548	502	30	54	211	211	185	472	299	182	112	174	57	54

*Dominion Bureau of Statistics, Department of Trade and Commerce, personal communication regarding 1951 census data to Mr. R. E. English, Provincial Statistician, Province of Alberta, Edmonton.

**Figures calculated using formula: $\frac{N}{T} \times 188$ where N is the number of farms having livestock in numbers indicated, T is the total number of farms for which census figures are available, and 188 is the estimated number of farm operators in that part of Census Division 3, Subdivision 122, in 1951, in the Special Areas. This estimate is based upon information collected personally from various sources.

***Figures calculated using formula: $\frac{n}{t} \times 141$ where n is the number of farms in Division 5, Subdivision 305, having livestock in numbers indicated, t is the total number of farms in Subdivision 305, and 141 is the estimated number of farm operators in 1951 residing within fringe areas later deleted from the Special Areas. This estimate is based on comparative land areas with Subdivision 305 in Division 5.

TABLE XXVII

LIVESTOCK IN THE SPECIAL AREAS, 1951. HORSES AND CATTLE.*

				Cattle						
						Cows and Heifers**				
Division	Sub-div.	Horses	Average Horses per Farm	Total	Average Number Cattle per Farm	for Milk	Av. for Milk per Farm	for Beef	Av. for Beef per Farm	Other
5	214	2,770	10	23,915	90	491	2	12,729	48	10,695
5	242	2,212	4	12,176	21	1,129	2	5,824	10	5,223
5	273	856	5	5,071	30	261	2	2,625	16	2,185
5	305	2,843	5	18,571	32	2,328	4	8,259	14	7,984
7	305	186	4	1,290	31	83	2	634	15	573
5	331	1,380	5	8,367	31	1,033	3	3,687	14	3,647
7	331	2,982	5	20,363	35	1,569	3	9,453	16	9,341
CENSUS TOTAL		13,229	5	89,753	36	6,894	3	43,211	17	39,648
3	122 pt.***	994	5	6,747	36	518	3	3,248	17	2,981
TOTAL		14,223	5	96,500	36	7,412	3	46,459	17	42,629
Deletions for Small Areas***		683	5	4,461	31	559	4	1,984	14	1,918
FINAL TOTAL		13,540	5	92,039	36	6,853	3	44,475	17	40,711

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[*] Dominion Bureau of Statistics, Ninth Census of Canada, 1951, Agriculture, Volume VI, Part 2, 31-3 to 31-5. All averages brought to nearest whole number.

[**] 1 year and over.

[***] See footnotes under Table XIII.

TABLE XXVIII

DISTRIBUTION OF COWS FOR BEEF (2 YEARS AND OVER) WITHIN THE SPECIAL AREAS, 1951*

Division	Sub-division	Total Farms	Farms with None	Number of Farms Reporting Herds of Cows for Beef (2 years and over) of Size Indicated										
				1	2	3-7	8-12	13-17	18-32	33-47	48-62	63-77	78-92	93+
5	214	267	58	3	3	21	25	24	47	29	18	9	14	16
5	242	582	242	24	17	93	71	61	51	15	4	2	1	1
5	273	168	68	6	4	18	14	18	22	13	4	-	-	1
5	305	587	186	23	13	96	91	52	80	23	8	10	1	4
5	331	271	69	12	11	42	34	40	43	12	7	-	1	-
7	305	42	11	-	-	7	6	6	9	3	-	-	-	-
7	331	584	160	15	22	103	94	61	79	31	9	4	1	5
CENSUS TOTAL		2,501	794	83	70	380	335	262	331	126	50	25	18	27
3	122pt.	188**	60	6	5	29	25	20	25	9	4	2	1	2
TOTAL		2,689	854	89	75	409	360	282	356	135	54	27	19	29
Deletions		141**	45	6	3	23	22	12	19	6	2	2	-	1
FINAL TOTAL		2,548	809	83	72	386	338	270	337	129	52	25	19	28

*See footnotes under Table XXVI.

**See footnotes under Table XIII.

TABLE XXIX

DISTRIBUTION OF COWS FOR BEEF (1 to 2 years) WITHIN THE SPECIAL AREAS, 1951.*

Division	Sub-division	Total Farms	Farms with None	Number of Farms Reporting Herds of Cows for Beef (1-2 years) of Size Indicated										
				1	2	3-7	8-12	13-17	18-32	33-47	48-62	63-77	78-92	93+
5	214	267	102	8	4	47	24	24	33	12	6	3	1	3
5	242	582	334	32	38	117	38	12	8	2	-	1	-	-
5	273	168	90	5	7	29	20	8	5	3	1	-	-	-
5	305	587	337	30	38	94	47	25	11	5	-	-	-	-
5	331	271	182	7	8	35	21	12	5	1	-	-	-	-
7	305	42	21	3	5	4	7	1	1	-	-	-	-	-
7	331	584	353	24	22	101	46	20	11	3	1	1	1	1
CENSUS TOTAL		2,501	1,419	109	122	427	203	102	74	26	8	5	2	4
3	122pt.	188**	107	8	9	32	15	8	6	2	1	-	-	-
TOTAL		2,689	1,526	117	131	459	218	110	80	28	9	5	2	4
Deletions		141**	81	7	9	23	11	6	3	1	-	-	-	-
FINAL TOTAL		2,548	1,445	110	122	436	207	104	77	27	9	5	2	4

*See footnotes under Table XXVI.

**See footnotes under Table XIII.

TABLE XXX

DISTRIBUTION OF COWS FOR MILK (2 years and over) WITHIN THE SPECIAL AREAS, 1951*

Division	Sub-division	Total Farms	Farms with None	Number of Farms Reporting Herds of Cows for Milk (2 years and over) of Size Indicated										
				1	2	3-7	8-12	13-17	18-32	33-47	48-62	63-77	78-92	93+
5	214	267	132	44	35	53	3	-	-	-	-	-	-	-
5	242	582	289	80	84	117	10	1	1	-	-	-	-	-
5	273	168	87	37	16	24	2	-	2	-	-	-	-	-
5	305	587	196	60	71	186	62	4	8	-	-	-	-	-
5	331	271	95	31	21	93	27	3	1	-	-	-	-	-
7	305	42	19	8	3	9	3	-	-	-	-	-	-	-
7	331	584	218	94	79	173	16	2	2	-	-	-	-	-
CENSUS TOTAL		2,501	1,036	354	309	655	123	10	14	-	-	-	-	-
3	122pt.	188**	78	27	23	49	9	1	1	-	-	-	-	-
TOTAL		2,689	1,114	381	332	704	132	11	15	-	-	-	-	-
Deletions		141**	47	14	17	45	15	1	2	-	-	-	-	-
FINAL TOTAL		2,548	1,067	367	315	659	117	10	13	-	-	-	-	-

*See footnotes under Table XXVI.

**See footnotes under Table XIII.

TABLE XXXI

DISTRIBUTION OF COWS FOR MILK (1 to 2 years) WITHIN THE SPECIAL AREAS, 1951*

Division	Sub-division	Total Farms	Farms with None	Number of Farms Reporting Herds of Cows for Milk (1-2 years) of Size Indicated										
				1	2	3-7	8-12	13-17	18-32	33-47	48-62	63-77	78-92	93+
5	214	267	240	11	4	6	4	1	-	-	1	-	-	-
5	242	582	506	26	22	21	2	2	3	-	-	-	-	-
5	273	168	152	9	4	2	1	-	-	-	-	-	-	-
5	305	587	482	29	28	32	9	3	2	2	-	-	-	-
5	331	271	236	8	4	14	7	-	2	-	-	-	-	-
7	305	42	40	2	-	-	-	-	-	-	-	-	-	-
7	331	584	513	22	16	19	9	1	3	1	-	-	-	-
CENSUS TOTAL		2,501	2,169	107	78	94	32	7	10	3	1	-	-	-
3	122pt.	188**	163	8	6	7	2	1	1	-	-	-	-	-
TOTAL		2,689	2,332	115	84	101	34	8	11	3	1	-	-	-
Deletions		141**	116	7	7	7	2	1	1	-	-	-	-	-
FINAL TOTAL		2,548	2,216	108	77	94	32	7	10	3	1	-	-	-

*See footnotes under Table XXVI.

**See footnotes under Table XIII.

TABLE XXXII

LIVESTOCK IN THE SPECIAL AREAS, 1951. SHEEP, SWINE, HENS AND CHICKENS.*

						Hens and Chickens			
Division	Subdiv.	Sheep	Average Sheep per Farm	Swine	Average Swine per Farm	Hens and Pullets**	Average Hens and Pullets per Farm	Other	Average per Farm
5	214	6,481	24	605	2	5,221	20	8,933	33
5	242	559	1	1,254	2	12,378	21	25,150	43
5	273	3,461	1	233	1	2,959	18	3,299	20
5	305	635	3	1,856	3	14,729	25	37,638	64
7	305	--	--	154	4	994	24	2,242	53
5	331	734	2	699	3	5,204	19	8,522	31
7	331	1,270	4	2,482	4	12,072	21	24,405	42
CENSUS TOTAL		13,140	3	7,283	3	53,557	21	110,189	44
3	122pt.***	987	3	548	3	4,026	21	8,283	44
TOTAL		14,127	3	7,831	3	57,583	21	118,472	44
Deletions for Small Areas****		324	3	445	3	3,538	25	9,040	64
FINAL TOTAL		13,803	3	7,386	3	54,045	21	109,432	43

*Dominion Bureau of Statistics, Ninth Census of Canada, 1951, Agriculture, Volume VI, Part 2, 31-3 to 31-5.

**6 months and over.

***See footnotes under Table XIII.

****Deletions based on Division 5, Subdivision 331, instead of 305, in the case of sheep.

TABLE XXXIII

DISTRIBUTION OF SHEEP WITHIN THE SPECIAL AREAS, 1951*

Division	Sub-division	Total Farms	Farms with None	Number of Farms Reporting Flocks of Sheep of Size Indicated											
				1	2	3-7	8-12	13-17	18-32	33-47	48-62	63-77	78-122	123-177	178+
5	214	267	248	3	1	2	1	2	4	-	-	1	-	1	4
5	242	582	574	2	-	2	-	-	1	1	-	-	-	-	2
5	273	168	161	-	1	3	-	-	-	-	-	-	-	-	3
5	305	587	571	3	-	3	-	-	4	3	-	-	2	-	1
5	331	271	262	1	1	3	1	-	-	1	-	-	-	-	1
7	305	42	42	-	-	-	-	-	-	-	-	-	-	-	-
7	331	584	567	5	1	3	2	-	-	-	3	-	-	-	3
CENSUS TOTAL		2,501	2,425	14	4	16	4	2	9	5	3	1	2	2	14
3	122pt.	188**	182	1	-	2	-	-	1	1	-	-	-	-	1
TOTAL		2,689	2,607	15	4	18	4	2	10	6	3	1	2	2	15
Deletions		141**	137	1	-	1	-	-	1	1	-	-	-	-	-
FINAL TOTAL		2,548	2,470	14	4	17	4	2	9	5	3	1	2	2	15

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*See footnotes under Table XXVI.

**See footnotes under Table XIII.

TABLE XXXIV

DISTRIBUTION OF EWES AND WETHERS WITHIN THE SPECIAL AREAS, 1951*

Division	Sub-division	Total Farms	Farms with None	Number of Farms Reporting Flocks of Ewes and Wethers of Size Indicated											
				1	2	3-7	8-12	13-17	18-32	33-47	48-62	63-77	78-122	123-177	178+
5	214	267	249	3	-	3	3	3	1	-	-	-	2	-	3
5	242	582	574	2	1	1	-	1	1	-	-	-	1	1	-
5	273	168	162	1	1	1	-	-	-	-	-	-	-	-	3
5	305	587	574	-	-	3	1	4	2	1	1	-	1	-	-
5	331	271	262	3	-	3	-	-	1	-	-	-	1	-	1
7	305	42	42	-	--	-	-	-	-	-	-	-	-	-	-
7	331	584	568	4	1	5	-	-	3	-	-	-	-	1	2
CENSUS TOTAL		2,501	2,431	13	3	16	4	8	8	1	1	-	5	2	9
3	122pt.	188**	183	1	-	1	-	1	1	-	-	-	-	-	1
TOTAL		2,689	2,614	14	3	17	4	9	9	1	1	-	5	2	10
Deletions		141**	138	-	-	1	-	1	1	-	-	-	-	-	-
FINAL TOTAL		2,548	2,476	14	3	18	4	10	10	1	1	-	5	2	10

*See footnotes under Table XXVI.

**See footnotes under Table XIII.

TABLE XXXV

DISTRIBUTION OF HORSES WITHIN THE SPECIAL AREAS, 1951*

Division	Sub-division	Total Farms	Farms with None	Number of Farms Reporting Numbers of Horses Indicated										
				1	2	3-7	8-12	13-17	18-32	33-47	48-62	63-77	78-122	123-177
5	214	267	30	5	15	104	59	20	20	6	5	-	1	2
5	242	582	176	25	92	222	41	14	7	4	-	1	-	-
5	273	168	41	9	20	66	21	4	3	3	1	-	-	-
5	305	587	110	21	85	281	58	12	13	4	1	2	-	-
5	331	271	36	11	43	120	45	7	9	-	-	-	-	-
7	305	42	8	1	3	23	7	-	-	-	-	-	-	-
7	331	584	101	19	80	268	90	16	6	2	1	-	-	1
CENSUS TOTAL		2,501	502	91	338	1084	321	73	58	19	8	3	1	3
3	122pt.	188**	150	7	25	82	24	6	4	1	1	-	-	-
TOTAL		2,689	652	98	363	1166	345	79	62	20	9	3	1	3
Deletions		141**	27	5	20	67	14	3	3	1	-	1	-	-
FINAL TOTAL		2,548	625	93	343	1099	331	76	59	19	9	2	1	3

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*See footnotes under Table XXVI.

**See footnotes under Table XIII.

TABLE XXXVI

DISTRIBUTION OF SWINE WITHIN THE SPECIAL AREAS, 1951*

Division	Sub-division	Total Farms	Farms with None	Number of Farms Reporting Numbers of Swine Indicated										
				1	2	3-7	8-12	13-17	18-32	33-47	48-62	63-77	78-122	123-177
5	214	267	209	8	12	11	9	7	8	2	1	-	-	-
5	242	582	383	42	48	56	27	9	14	2	-	1	-	-
5	273	168	143	4	7	6	4	-	3	-	-	-	1	-
5	305	587	379	36	30	53	53	10	19	5	-	1	2	-
5	331	271	173	15	24	24	18	13	1	2	1	-	-	-
7	305	42	29	3	1	2	3	2	1	-	1	-	-	-
7	331	584	365	25	32	58	39	19	35	8	-	1	1	1
CENSUS TOTAL		2,501	1,681	133	154	210	152	60	81	19	3	3	4	1
3	122pt.	188**	126	10	12	16	12	5	6	1	-	-	-	-
TOTAL		2,689	1,807	143	166	226	164	65	87	20	3	3	4	1
Deletions		141**	91	9	7	13	13	2	5	1	-	-	-	-
FINAL TOTAL		2,548	1,716	134	159	213	151	63	82	19	3	3	4	1

*See footnotes under Table XXVI.

**See footnotes under Table XIII.

TABLE XXXVII

DISTRIBUTION OF CHICKENS WITHIN THE SPECIAL AREAS, 1951*

Division	Sub-division	Total Farms	Farms with None	Number of Farms Reporting Numbers of Chickens Indicated									
				1-7	8-17	18-47	48-77	78-122	123-177	178-272	273-527	528-972	973-2027
5	214	267	96	5	20	60	29	22	22	7	4	1	1
5	242	582	227	6	17	66	69	63	75	46	13	-	-
5	273	168	68	7	13	31	21	14	9	5	-	-	-
5	305	587	191	7	22	72	52	57	80	70	34	1	1
5	331	271	86	4	20	58	38	21	31	11	2	-	-
7	305	42	8	1	3	3	3	6	2	1	5	-	-
7	331	584	191	5	23	111	67	66	70	38	10	1	-
CENSUS TOTAL		2,501	877	35	120	401	279	249	289	178	68	3	2
3	122pt.	188**	66	3	9	30	21	19	22	13	5	-	-
TOTAL		2,689	943	38	129	431	300	268	311	191	73	3	2
Deletions		141**	46	2	5	17	13	14	19	17	8	-	-
FINAL TOTAL		2,548	897	36	124	414	287	254	292	174	65	3	2

*See footnotes under Table XXVI.

**See footnotes under Table XIII.

TABLE XXXVIII

FARM VALUES IN THE SPECIAL AREAS, 1951*

Div.	Sub-div.	Total Value	Average Total Value per Farm	Implements and Machinery**	Average Value Implements and Machinery per Farm	Livestock***	Average Value Livestock per Farm	Average Value Livestock per Farm (1955)****	Average Value Land Buildings#
5	214	8,520,097	31,910	1,065,933	3,993	5,181,663	19,407	12,544	8,510
5	242	9,830,257	16,890	2,890,101	4,966	2,671,631	4,590	2,967	7,334
5	273	3,107,333	18,496	815,035	4,851	1,152,134	6,858	4,433	6,787
5	305	10,952,419	18,658	2,728,269	4,678	4,012,040	6,835	4,418	7,145
7	305	780,942	18,593	197,759	4,709	263,133	6,265	4,340	7,080
5	331	4,457,809	16,449	1,235,278	4,558	1,819,816	6,715	4,546	5,176
7	331	10,466,626	17,922	2,207,998	3,781	4,107,501	7,033	4,964	7,108
CENSUS TOTAL		48,115,483	19,239	11,140,373	4,454	19,207,918	7,680	4,964	7,105
3	122pt.##	3,161,838	19,238	837,298	4,454	1,443,842	7,680	4,964	7,104
TOTAL		51,732,321	19,239	11,977,671	4,454	20,651,760	7,680	4,964	7,104
Deletions for## Small Areas		2,630,819	18,658	655,342	4,678	963,710	6,835	4,418	7,145
FINAL TOTAL		49,101,502	19,271	11,322,329	4,444	19,688,050	7,727	4,994	7,100

*Dominion Bureau of Statistics, Ninth Census of Canada, 1951, Agriculture, Volume VI, Part 2, 30-3 to 30-5.

**Includes value of automobiles.

***Includes value of bees, hens and chickens, turkeys, ducks and geese.

****Calculated from census figures.

#Average total value per farm less average values of implements, machinery and livestock.

##See footnotes under Table XIII.

TABLE XXXIX

EXPENDITURES, SPECIAL AREAS NUMBERS 2, 3 and 4, 1940 to 1947 inclusive*

	1940	1941	1942	1943	1944	1945	1946	1947
School Requisitions	216,988	201,675	201,675	162,546	144,839	180,096	204,767	219,571
Hospital Requisitions	23,139	24,670	44,298	30,124	20,188	35,429	42,677	56,400
Administration Costs	69,378	56,408	53,799	59,330	50,464	53,276	58,637	69,786
Public Welfare	50,432	34,412	48,662	34,130	37,880	36,540	36,281	26,696
Road Construction and Maintenance	27,950	37,389	20,819	59,383	102,168	133,005	129,000	141,834
Office Building and Maintenance	5,560	850	880	676	2,853	3,643	3,614	5,382
Fees	1,720	2,522	2,827	3,073	1,026	1,112	929	1,388
Purchase of Equipment	17,356	22,478	10,122	300	39,024	31,699	--	65,851
Maintenance of Equipment	8,236	12,892	14,391	5,908	9,537	10,500	29,598	50,507
Community Pastures	5,600	7,376	8,834	7,920	12,264	10,350	8,251	9,804
Grass Seed	1,764	1,345	801	1,493	831	2,169	2,791	796
Pests and Weeds	676	1,213	1,051	512	1,765	454	72	--
Stationery and Office Supplies					2,058	2,589	1,895	1,702
Travelling Expenses					6,767	5,994	6,048	5,769
Miscellaneous	2,388	756	924	1,872	7,647	22,444	11,926	14,969
TOTALS	431,187	403,986	418,296	367,267	439,311	529,300	536,486	670,455

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*Department of Municipal Affairs records.

TABLE XXXIX (continued)

EXPENDITURES, SPECIAL AREAS NUMBERS 2, 3 and 4, 1948 to 1954 inclusive*

	1948	1949	1950	1951	1952	1953	1954
School Requisitions	243,011	284,923	297,374	301,554	326,884	371,528	377,620
Hospital Requisitions	67,178	75,140	81,293	82,361	85,345	99,490	93,251
Administration Costs	78,477	30,623	56,588	57,004	77,097	68,702	65,780
Public Welfare	28,915	14,232	14,122	23,104	22,963**	23,169**	22,899**
Road Construction and Maintenance	272,510	215,504	239,429	285,456	540,963	530,365	506,100
Office Building and Maintenance	4,807	4,258	1,957	4,545	2,974	2,903	2,884
Fees	790	979	1,000	1,269	1,106	985	625
Purchase of Equipment	64,746	20,748	4,168	54,712	2,818	37,458	5,243
Maintenance of Equipment		41,087	50,607	67,137	67,744	68,335	57,179
Community Pastures	13,731	11,088	16,074	18,931	30,148	25,813	20,400
Grass Seed	1,031	120	797	1,929	884	2,339	2,403
Pests and Weeds	1,296	4,130	22,719	4,722	1,169	176	555
Stationery and Office Supplies	5,119	3,419	3,258	2,998	3,469	3,527	3,480
Travelling Expenses	4,905	3,806	4,528	3,894	4,384	7,032	8,292
Miscellaneous	13,978	11,141	15,464	20,298	211	1,645	149,142
TOTALS	800,494	721,198	809,378	929,914	1,146,159	1,221,467	1,293,853

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*Department of Municipal Affairs records.

**Complete information not available at time of typing. Estimated by Department of Municipal Affairs official.

TABLE XL

BANK BALANCE, SPECIAL AREAS 2, 3 and 4, 1940 to 1947 inclusive*

	1940	1941	1942	1943	1944	1945	1946	1947
Bank Balance	100,105	295,956	487,751	863,946	949,257	849,872	661,459	523,870
Bank Interest	182	530	595	3,248	5,782	6,438	5,499	3,113
Taxes (General)	347,380	359,739	319,715	349,780	285,455	220,763	365,249	380,751
Grazing Rentals**	106,748	114,786	144,146	233,873	119,221	160,820	147,827	136,263
Crop Shares							84,324	89,310
Grants (Road)***							40,000	44,596
Grants (Other)****	100,000	100,000	62,000	40,000	4,230	39,546		
Appropriations	92,814	89,604	87,979	78,842	25,000	16,373		
Fees								
Land Sales							2,459	2,252
Community Pastures#								
Sale of Improvements, Materials, Equipment							10,663	20,139
Miscellaneous##	1,627	6,718	2,901	14,598	7,214	6,582	19,023	5,377
TOTALS	748,856	967,333	1,105,087	1,584,287	1,396,149	1,300,394	1,336,502	1,205,671

*Department of Municipal Affairs records.

**Figures in this statement were compiled from published financial statements for the respective years which in the years 1940-1945 did not make a distinction between rental and crop share revenues from crown lands.

***There was no grant made available for roads during the period 1940-45.

****During the period 1940-45 grants and appropriations were made available to meet school requisitions, administrative salaries, hospitalization and medical services, etc., which were discounted in the year 1946. The amount $49,706 (1951) represents the amount provided under the Municipal Assistance Act.

TABLE XL (continued)

BANK BALANCE, SPECIAL AREAS 2, 3 and 4, 1948 to 1954 inclusive*

	1948	1949	1950	1951	1952	1953	1954
Bank Balance	189,461	228,152	213,290	366,243	512,456	401,414	2,243
Bank Interest	2,600	1,783	4,344	5,563	3,360	2,161	7,012
Taxes (General)	371,691	470,865	469,336	432,755	442,995	427,130	355,679
Grazing Rentals**	155,815	128,962	174,795	261,523	310,652	248,262	167,985
Crop Shares	124,244	146,212	64,104	166,099	286,341	393,349	241,753
Grants (Road)***	55,000	60,000	70,000	80,000	80,000	80,000	125,000
Grants (Other)****				49,706	69,447	78,322	76,410
Appropriations							
Fees			3,548	8,849	5,478	4,193	5,568
Land Sales	1,548	2,797	17,478	6,901	11,803	15,365	12,878
Community Pastures#		5,763	4,103	7,209	27,725	36,519	17,311
Sale of Improvements, Materials, Equipment	12,397	8,749	5,346	2,327	6,048	5,880	2,754
Miscellaneous##	5,716	8,976	4,553	11,105	5,438	8,117	11,668
TOTALS	918,472	1,062,259	1,030,897	1,398,280	1,761,743	1,700,712	1,026,261

#No indication given in earlier financial statements regarding revenue from Community Pastures and such was no doubt included in amounts indicated as revenue from crown lands.

##Items such as fees, land sales, sales of improvements, etc., were not segregated in all financial statement and would appear possibly as miscellaneous revenue some years.

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GOVERNMENT OF THE
PROVINCE OF ALBERTA

DEPARTMENT OF MUNICIPAL AFFAIRS

GRAZING LEASES

SPECIAL AREAS

(EXTRACTS FROM THE PUBLIC LANDS ACT)

1949, CHAP. 81
1950, CHAP. 53
1951, CHAP. 68
1952, CHAP. 70
1953, CHAP. 94
1954, CHAP. 85

FURTHER INFORMATION MAY BE OBTAINED FROM . . .

THE SPECIAL AREAS BOARD
HANNA, ALBERTA

GOVERNMENT OF THE
PROVINCE OF ALBERTA
DEPARTMENT OF MUNICIPAL AFFAIRS

GRAZING LEASES

SPECIAL AREAS

This pamphlet has been compiled for the information and guidance of those holding or desirous of obtaining grazing leases covering public lands within the boundaries of the Special Areas.

INTERPRETATION

In this Act, as it pertains to lands in the Special Areas,—

"Department" means the Department of Municipal Affairs

"Minister" means the Minister of Municipal Affairs

"Chief Clerk" means chief clerk for the district in which the land is situated.

"Stock" includes any cattle, horse, or sheep at least six months old.

(1) There is reserved to the Crown out of every disposition of Public Lands under the Public Lands Act,—

(a) the property in and the right to and the right to use all the water at any time in any river, stream, water course, lake, creek, spring, ravine, canyon, lagoon, swamp, marsh, or other body of water, or contained or flowing therein, and also an exclusive and perpetual property, interest or privilege in the land forming the bed or shore thereof;

(b) the right to construct without making compensation therefor, any colonization or other road, or any road in lieu of or partly deviating from an allowance for road, or any drain or drainage works, and wood, gravel and other materials required for the construction or improvement of any such road, drain or drainage works may be taken from the said lands without compensation therefor or for the injury thereby done to the lands from which they are taken, and such rights may be exercised by the Minister or by any person authorized by him to exercise them on behalf of the Crown, at any time prior to the issue of a notification;

(c) all rights of fishery and fishing and occupation in connection therewith, upon, around and adjacent to the said lands;

(d) all mines and minerals (precious and base), together with the right to enter, locate and prospect for minerals, and with full power to work the same and for this purpose to enter upon, use and occupy the said lands or so much thereof and to such extent as may be necessary for the effectual working and extracting of the minerals;

(e) all travelled trails, public roads and highways.

APPLICATION FOR GRAZING LEASES

(1) Lands that are found upon inspection to be unsuitable for purposes other than the grazing of stock may be leased by the Minister for such purpose for a period not exceeding twenty years.

(2) No person or company shall acquire under grazing lease either by original lease or assignment, an area larger than that required to graze four hundred head of cattle in accordance with the carrying capacity of the lands as determined by the appraiser of grazing lands.

(3) Notwithstanding subsection (2), the Minister may allow additional lands to be included in the lease where in his opinion conditions warrant it, and the inclusion of such lands would not be detrimental to the interests of other settlers residing in the district.

(4) The Minister, if in his opinion it becomes necessary or in the interests of other residents to reduce the area under the control of the lessee, and upon giving the lessee one year's written notice, may withdraw from the grazing lease such lands as are in excess of the area required to graze four hundred head of cattle.

(5) Application for a lease may be accepted from,—

(a) a British subject or a Canadian citizen; or

(b) a person who furnishes evidence that he has filed his declaration of intention to become a Canadian citizen, and who has attained the age of eighteen years.

(6) A company making application for a lease shall show that it is incorporated under the laws of the Dominion of Canada, or under the laws of the Province, and that the majority of the shares of the company are owned by residents of the Province for their exclusive use and benefit and not in the interest of or for the benefit of any other person.

(7) A company incorporated under the laws of the Dominion of Canada shall not be eligible to acquire a grazing lease by application or assignment unless it is registered in the Province under the provisions of THE COMPANIES ACT.

(8) A grazing association making application for a lease shall show that it is incorporated under The Societies Act, and shall file in the Department a copy of its by-laws.

(9) An alien who has been granted a grazing lease shall become a Canadian citizen as soon as he becomes eligible for naturalization, and he shall inform the Minister when he files his petition for citizenship.

(10) The Minister in his discretion may cancel any grazing lease if the lessee fails to comply with the previous section.

(11) Application for a grazing lease shall be made on the form prescribed by the Minister and forwarded to the Chief Clerk accompanied by a deposit of one dollar.

(12) The deposit shall be credited to the applicant if a grazing lease is issued to him, but where for any reason the application is refused, the deposit shall be refunded.

(13) If the applicant is offered a grazing lease and refuses it, the deposit together with any other moneys paid with the application shall be forfeited.

(14) Any grazing lease in good standing, irrespective of its area, which has less than five years to run, may be renewed by the Minister if upon inspection by an official of the Department the lands are found to be unfit for purposes other than grazing and if the granting of a renewal will not be detrimental to the interests of other settlers.

GRAZING LEASE RENT

(1) The rent payable under a grazing lease together with the tax payable under The Grazing Lease Taxation Act shall be such percentage of the forage value of the lands included in the lease as may be fixed from time to time by the Lieutenant Governor in Council.

(2) The forage value of the lands shall be fixed annually by the Minister having regard to,—

(a) the carrying capacity of the land;

(b) the average gain in weight of cattle on grass;

(c) the average sale price per pound in the Calgary Live Stock Market during the preceding calendar year, or such portion of that year as may be selected by the Minister.

(3) Notwithstanding the provisions of a grazing lease heretofore or hereafter granted, commencing on the first day of January in the year first following the granting of the lease, the lease year is the calendar year, and the cash rental is payable on or before the first day of April in each year.

CONSERVATION OF GRAZING LEASES

(1) No lessee shall keep, maintain or allow on any grazing lease stock in excess of the number authorized by the Minister in the interests of conservation and to avoid over-grazing.

(2) The Minister in his discretion may fix the carrying capacity of a grazing lease in any district either above or below the carrying capacity of other grazing lands in the district, but unless the Minister does so, the carrying capacity of each grazing lease in any district shall be the carrying capacity fixed by the Minister for grazing lands in the district.

(3) The lessee shall furnish a sworn return showing the number of stock owned and maintained on the grazing lease at any time when required by the Minister.

(4) The frontage of a grazing lease on a lake, river or creek, shall not exceed one mile for every four miles in depth, unless otherwise authorized by the Minister, or unless upon inspection it is found that the granting of a grazing lease with a greater frontage would not affect the interests of other ranchers or settlers of the district.

(5) Any land comprised within a grazing lease shall be utilized for the grazing of stock in accordance with conservation and proper range management practices.

(6) The lessee of grazing land shall seed to grass and otherwise reclaim, in such manner as the Minister may direct, any land which has been cultivated and abandoned.

(7) No part of the land comprised within a grazing lease shall be used or allowed to be used for any purpose other than grazing and the lessee shall not cut or destroy, or allow to be cut or destroyed, any timber, trees or shrubs without having obtained the consent of the Minister in writing.

(8) The lessee shall not plow or break up in any other manner, or cultivate any of the land leased to him, or permit or allow the same to be done without the consent of the Minister in writing.

(9) The lessee shall not graze, place, hold, pasture or feed any stock not belonging to himself upon the land comprising the lease, or permit or allow any such stock to be grazed, placed, held, pastured or fed without the consent of the Minister in writing.

(10) The lessee shall confine his stock to the land described in his grazing lease at all times and will not permit their grazing upon, or straying upon any adjoining land, and will not move them across any adjoining land administered by the Department without the consent of the Minister in writing.

(11) If a lease is held by a grazing association, the association shall operate the leasehold for the benefit of the settlers in the district in which the leasehold is located.

(12) If a dispute arises regarding the right to graze stock on the leasehold, the Minister shall settle the dispute as he deems best.

ASSIGNMENT OF GRAZING LEASES

(1) No person shall assign a grazing lease without the consent of the Minister, and any assignment without the consent of the Minister is void.

(2) The consent of the Minister to an assignment of a grazing lease shall not be given unless,

(a) all arrears of rent, interest, penalties and other moneys due have been paid; and

(b) the said lessee personally has been in possession of the lands for a period of not less than three years; and

(c) the assignment is made to a person eligible to acquire a lease under this Act.

(3) Notwithstanding the provisions of subsection (1), the Minister in his discretion may consent to an assignment where the lessee has not been in possession for three years if,

(a) the lessee dies and the assignment is presented by his executors or administrators; or

(b) if the assignment is to the husband, wife, son, daughter, father, mother, brother or sister of the lessee.

(4) If the Minister consents to an assignment all the provisions and conditions of this Act shall extend to and be binding upon the assignee as well as the lessee, and any breach by the assignee shall have the same effect as if the breach were made by the lessee.

(5) The Minister shall not consent to an assignment unless the assignee is eligible to acquire a lease.

GRAZING LEASE GENERAL PROVISIONS

(1) The lessee may cut hay on the grazing lease without payment of any fee or dues to the extent of three tons of hay for each head of stock authorized in accordance with the carrying capacity of the lease as determined by the Minister and the hay shall be used exclusively for the feeding of the lessee's own stock.

(2) The lessee upon application to the Minister and upon payment of a fee of one dollar and dues at the rate of fifty cents per ton, may be granted a permit to cut additional hay on the land covered by the grazing lease for the feeding of the lessee's own stock but not for barter or sale.

(3) When required by the Minister, the lessee shall enclose the land by a lawful fence within the meaning of section 38 of THE IMPROVEMENT DISTRICTS STRAY ANIMALS ACT.

(4) Where the grazing of sheep is specifically authorized, the lessee shall at the request and to the satisfaction of the Minister, enclose the land with a sheep-tight wire fence, and the maintenance of sheep shall be at the ratio of five head of stock.

(5) The lessee shall in all respects comply with the law relating to the control of contagious diseases of animals in so far as the law affects land comprised within the grazing lease.

(6) In default of performance by the lessee of any duties relating to control of contagious diseases of animals of which he has received notice, the Minister on behalf of the lessee may perform the same, and in such event all moneys expended by the Minister for such purpose shall become part of and additional to the rental provided in the lease and shall be repayable forthwith to the Minister by the lessee.

(7) The lessee may construct barns, shelters and corrals and make such other improvements as may be necessary in the utilizing of the land for the grazing of stock, but he shall not have or acquire any title or interest in the land but only in the improvements.

(8) Land belonging to the School Endowment Fund may be included in any tract or block of lands leased for grazing purposes if in the opinion of the Minister the land is essential for the establishment of an economic unit.

(9) Where any company has obtained a grazing lease, whether its lease was made under the provisions of this Act, The Provincial Lands Act or The Dominion Lands Act or the regulations made under any of the said Acts, the Minister at any time by notice in writing may require the lessee to furnish proof that at the time of the notice,

(a) it is incorporated under the laws of Canada or of the Province of Alberta; and

(b) the majority of its shares are owned by residents of the Province for their exclusive use and benefit and not in the interests of or for the benefit of any other person.

(10) If the lessee fails to comply with the notice or if the proof furnished by the lessee is not satisfactory to the Minister, the Minister may cancel the lease.

(11) If any portion of the land included in a grazing lease contains timber, the Minister, subject to such conditions for the protection of the interests of the lessee as the Minister deems proper, may grant to any person or corporation a permit or license to enter upon the land included in the grazing lease and to cut and remove the timber.

(12) All sums payable under a grazing lease shall constitute a first lien upon each animal run or grazed upon the lease and the Minister may enforce the lien by the seizure and sale of such animals subject to the lien as may be required to realize a sufficient sum to satisfy the full amount owing by the lessee.

(13) The Minister after satisfying the lien and paying all expenses that may have been incurred incidental to the seizure and sale, shall pay the balance of any moneys realized from the sale of such animals to the lessee.

(14) A lessee may be granted by ancillary agreement permission to use an area not exceeding one quarter-section as a place for his residence and on which to erect the buildings necessary to conduct his operations subject to the payment of such annual rental as may be prescribed by the Minister at the time of the making of the agreement.

(15) Any such ancillary agreement shall run concurrently with the term of the grazing lease, and if the grazing lease is cancelled or terminated the ancillary agreement shall be void.

GENERAL

(1) The Minister in his discretion may refuse to issue a lease or a renewal and may cancel a lease issued in error and refund moneys paid in connection with any lease.

(2) Any lands seeded to tame hay or grass shall be considered as cultivated land and where the hay or grass is not harvested as a seed crop, the rent payable in lieu of a share of the crop shall be fixed by the Minister.

(3) A lessee shall not make use of the land for any purpose than that for which the lease was granted without the consent of the Minister and then only on such terms and conditions as the Minister may prescribe.

(4) The Minister in his discretion may refuse to accept applications for any specific land or any particular district in any manner and he may settle in such manner as he deems best all disputes which arise between persons claiming the right to lease the same land, and he may require the several applicants to submit tenders.

(5) The lessee shall at all times perform, observe and comply with all the provisions of any other Act which may affect the proper utilization and conservation of the lands for the purpose for which they have been granted.

(6) In wooded parkland or brush-covered areas, the lessee shall preserve and maintain for shelter belts, wind-breaks and wood-lots such areas of brush and forest cover as may from time to time be prescribed by the Minister.

(7) At such time and in such form as may be required by the Minister, the lessee shall furnish proof by declaration or otherwise that he has performed all covenants, conditions and agreements which ought to be performed and observed by him.

(8) A lease shall be subject to cancellation by the Minister if the Minister is satisfied,

(a) that the lessee has failed to comply fully with the conditions of the lease; or

(b) that the lease was obtained by misrepresentation of any material fact.

(9) Upon cancellation of the lease for any such reason all payments made to the Crown in connection therewith shall be forfeited and the lessee shall not be entitled to claim compensation for any work performed on the land described in such lease or for any expenditure incurred in connection therewith.

(10) Any person applying for a lease shall declare what improvements, if any, there are upon the land with respect to which his application is made, and shall submit with the application an amount in cash sufficient to cover his valuation of the improvements.

(11) On receipt of the application the Minister shall cause the improvements to be examined and valued by an officer.

(12) Where the officer's valuation exceeds that of the applicant, the difference shall be paid by the applicant to the Department, and where the officer's valuation is less than that of the applicant, the difference shall be refunded by the Department to the applicant.

(13) If the application is not accepted, any moneys received for the purchase of the improvements shall be refunded unless the applicant is indebted to the Department.

(14) In any case where a lease has been cancelled or has expired the Minister in his discretion may,

(a) authorize the lessee to remove from the lands included in the lease any improvements created or owned by him;

(b) refund to the person who made the improvements or to any dependent or dependents of the person adjudged by the Minister to be entitled thereto, any moneys collected by him on account of the value of the improvements or so much thereof as he may in his discretion consider proper after deducting any amount which may be owing to Her Majesty with respect to the lands concerned.

(15) The Minister may at any time authorize the removal of any fencing or other improvements upon

the land which are not the property of the lessee, and may also grant right of entry upon the land for the purpose of such removal.

(16) An applicant for a lease shall have no right to enter upon, the land applied for until a lease in his favor has been issued, unless otherwise notified in writing by the Minister.

(17) A lease shall be in such form as may be determined by the Minister.

(18) The holder of a lease may bring and maintain actions for trespass committed at any time during the currency of the lease and all such proceedings pending at the expiration of the lease may be continued and completed as if the lease had not expired.

(19) If the Minister at any time during the term of a lease deems it to be in the public interest to cause any unsurveyed part or parts of the lease to be surveyed, or to be resurveyed for any purpose or purposes whatsoever, the surveyors appointed to make the survey or surveys may, with their assistants, servants, horses and other things required in that behalf enter upon the land and make the survey or surveys.

(20) If the Minister, at any time during the term of a lease, is of the opinion that it is in the public interest to withdraw the whole or any portion of the land included in a lease, other than a lease of a homestead, he may, on giving the lessee three years' notice, withdraw such land and cancel the lease to that extent.

(21) Any land included in a lease other than a lease of a homestead that is required for any irrigation project may be withdrawn by the Minister at any time during the term of the lease on giving the lessee one year's notice.

(22) Service of the notice may be effected by mailing the same by registered mail to the address or the last known address of the lessee, and in such case service shall be deemed to have been effected upon the lessee on the day on which the notice was mailed.

(23) The Minister may grant a right of entry to explore and search for gold, silver, copper, coal or other minerals with respect to any land leased pursuant to the provisions of this Act.

(24) The right of entry granted pursuant to this section shall be subject to such conditions for the protection of the interests of the lessee as the Minister may prescribe.

(25) If the Minister is satisfied that any portion of any land leased pursuant to the provisions of this Act is suitable for the development of water power, he may withdraw from the lease any portion of the land on giving the lessee one year's notice.

(26) The lessee shall permit the Minister or his duly authorized agent to enter upon the land with men, horses, machinery, and equipment of any kind, for the purpose of constructing, maintaining, repairing and operating any works authorized under the provisions of THE WATER RESOURCES ACT.

(27) The lessee shall not trespass upon, damage or destroy, or permit or allow his stock or any person or the stock of any person to trespass upon damage or destroy any of the works constructed upon the land under THE WATER RESOURCES ACT.

(28) The lessee shall repair or reconstruct any works so damaged or destroyed upon receiving notice in writing from the Minister requiring him to do so.

(29) If the Minister is satisfied that any land leased pursuant to this Act, other than land leased for homestead, contains sand or gravel in commercial quantities, he may withdraw the land from the lease to which it is subject on giving the lessee thirty days' notice in writing.

(30) If the land is withdrawn from a lease under section 29 the lessee shall be entitled to a reduction in the rent proportionate to the reduction in the lands leased, but shall not be entitled to any other compensation unless, in his discretion, the Minister so decides.

(31) Where entry upon land is granted,

(a) by the Minister for the purpose of exploration;

(b) for the purposes set out in The Right of Entry Arbitration Act, 1952, by the Board appointed under that Act; or

(c) for pipe line purposes;

the land upon which entry is granted, at the discretion of the Minister, may be withdrawn from the lease.

(32) Where any question arises the Minister shall be the sole judge as to whether or not the terms or conditions under which the lease was granted have been fully kept, performed and complied with.

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GOVERNMENT OF THE PROVINCE OF ALBERTA

THE PUBLIC LANDS ACT

REGULATIONS APPROVED

Edmonton, Tuesday, April 25, 1950.

His Honour the Lieutenant Governor, by and with the advice of the Executive Council, has been pleased to order (pursuant to the provisions of The Public Lands Act, being chapter 81 of the Statutes of Alberta, 1949), that the regulations attached hereto governing the issue of Grazing Permits on public lands within the Special Areas be and are hereby established.

R. A. ANDISON,
(O.C. 428-50) Clerk of the Executive Council.

DEPARTMENT OF MUNICIPAL AFFAIRS

THE PUBLIC LANDS ACT

REGULATIONS GOVERNING THE ISSUE OF GRAZING PERMITS ON PUBLIC LANDS WITHIN THE SPECIAL AREAS

Interpretation:

In these Regulations, unless the context otherwise requires:

"Department" means the Department of Municipal Affairs.

"Minister" means the Minister of Municipal Affairs.

"Board" means the Special Areas Board appointed pursuant to The Special Areas Act, 1939.

"Stock" means, bulls, oxen, cows and horses at least six months old; and five head of sheep equal one head of stock.

"Public Lands" means public lands and lands of a class designated school lands.

Grazing Permits may be issued on public lands available for the purpose of grazing within the Special Areas, in the Province of Alberta, in accordance with the Regulations.

1. (*a*) Application to acquire a Grazing Permit must be made on the prescribed form and filed with or forwarded to the Special Areas Board in the district office in which the land is situated.

(*b*) Application must be accompanied by a permit fee of $1.00 and rental and taxes at the rate per acre prescribed by the Minister. The minimum rental and taxes shall be $2.00 per annum.

2. The Board reserves the right to refuse any or all applications for any specific land or fraction thereof and shall settle in such manner as it deems best all disputes which arise between persons claiming the right to use the same land.

3. Receipt of an application by the Special Areas Board shall not vest in the applicant the right to enter upon and graze the land until such time as a permit has issued in his favour.

4. The permit shall be operative from the 1st day of April, unless otherwise authorized by the Minister. All permits shall terminate on the 31st day of March.

5. The permittee shall, at the discretion of the Minister, have a prior right to a renewal permit subject to the regulations in force at the time the renewal is granted, provided he has complied with all of the conditions of his permit and files with the Board a renewal application accompanied by the ensuing year's rental, taxes, cash bonus, if any, and office fee, on or before the termination of the existing permit.

6. (*a*) The permit shall, subject to the terms and conditions specified herein, vest in the holder thereof the exclusive right to enter upon and use the land for the purpose of grazing thereon his own stock and he shall be entitled to enclose the land with a fence and to erect such temporary structures as shall be necessary for the protection of his stock.

(*b*) When required by the Minister the permittee shall enclose the land with a legal fence.

7. The permittee shall not erect any buildings on the lands except such temorary structures as shall be necessary for the protection of his stock. He may, however, with the permission of the Minister, construct stock watering facilities.

8. (*a*) Any buildings, erections or other improvements whatsoever, belonging to the Crown, upon the lands covered by the permit, shall be securely fastened or protected by the permittee so that no stock or other animals shall have access thereto.

(*b*) where fencing or other improvements placed upon the land are not the property of the permittee, the permit shall be subject to the right of the Minister to authorize the removal of such fencing or other improvements and entry upon the land for the said purposes.

9. The permittee will not plough, cultivate or break up or suffer the same to be done, any of the lands held under Grazing Permit, except for the purpose of regrassing or for the destruction of weeds and then only upon such terms as may be authorized by the Minister.

10. Where the permittee has not sufficient fodder for his own stock on his freehold lands he shall be entitled to cut and remove from the land under permit, free of fee or dues, whatever hay he may require for his own use, not to exceed three tons for each head of stock, but not for barter or sale. Any hay required by a permittee over the free allotment shall be subject to the hay regulations and payment of dues at the rates set by the hay regulations.

11. The permittee shall own and maintain upon the land covered by the permit, such number of stock as may be required by the Minister and whenever so directed by the Minister in writing, the number of stock to be grazed on the land covered by the permit shall be increased or decreased by the permittee.

12. The permittee shall not graze or allow to be grazed on the land, any stock other than his own, neither shall he sublet any interest in the permit.

13. The permittee shall not assign, transfer or sublet the land covered by the permit or any part thereof, without the consent of the Minister.

14. The permit shall be subject to the right of the Minister to dispose of the land or any portion thereof, at any time during the term of the said permit, by sale, lease, or in any other manner, without the consent of the permittee.

15. The Minister reserves the right to withdraw from operation, at any time during the term of the permit, such areas as may be available for cultivation privileges, to issue Cultivation Permits for such areas and to grant the cultivation permittee access to the land for the purpose of carrying on operations.

16. Should all or any portion of the land be withdrawn from the operation of the Grazing Permit, at any time during its currency, such permit shall become inoperative in so far as it relates to the portion withdrawn and the permittee's right therein shall cease and determine. The permittee, however, shall be entitled to a refund equal to the rental paid by him for the area so withdrawn, from the date upon which the land was withdrawn to the date of expiry of the permit. The permittee shall also be entitled to a reasonable time, but not to exceed one year, after the withdrawal of all or any portion of the land from the permit, within which to remove any fencing or other improvements he may have erected on said land.

17. The permittee shall pay and discharge all rates, assessments and taxes which are a proper charge on the premises.

18. The permittee will not trespass upon, damage or destroy or permit to be trespassed upon, damaged or destroyed by his stock or by any person whatsoever or by the stock of any person, any of the works upon the land constructed under The Water Resources Act and shall repair or reconstruct any work so damaged or destroyed upon receiving notice in writing from the Minister.

19. The permit shall be subject to cancellation for failure on the part of the permittee to comply fully with the provisions of these regulations or in case it can be shown to the satisfaction of the Minister that the permit was obtained by misrepresentation of any material facts and upon the cancellation of the permit for any such reasons, unless the Minister otherwise directs, all payments made to the Crown in connection therewith shall be forfeited and the permittee shall not be entitled to receive compensation for any expenditure incurred in connection with such permit.

(Extract from *The Alberta Gazette* of May 15, 1950.)

EDMONTON: Printed by A. Shnitka, King's Printer.

GOVERNMENT OF THE PROVINCE OF ALBERTA

THE PUBLIC LANDS ACT

REGULATIONS APPROVED

Edmonton, Tuesday, April 25, 1950.

His Honour the Lieutenant Governor, by and with the advice of the Executive Council, has been pleased to order (pursuant to the provisions of The Public Lands Act, being chapter 81 of the Statutes of Alberta, 1949), that the regulations attached thereto governing the issue of Cultivation Leases on public lands within the Special Areas be and are hereby established.

R. A. ANDISON,
Clerk of the Executive Council.

(O.C. 431-50)

DEPARTMENT OF MUNICIPAL AFFAIRS

THE PUBLIC LANDS ACT

REGULATIONS GOVERNING THE ISSUE OF CULTIVATION LEASES ON PUBLIC LANDS WITHIN THE SPECIAL AREAS

Interpretation:

In these Regulations, unless the context otherwise requires:

"Crop" in addition to its ordinary meaning, means all grains whether cut for fodder or seed and including tame grasses.

"Department" means the Department of Municipal Affairs.

"Minister" means the Minister of Municipal Affairs.

"Board" means the Special Areas Board appointed pursuant to The Special Areas Act, 1939.

"Public Lands" means public lands and lands of a class designated school lands.

Cultivation Leases may be issued on public lands available for the purpose of cultivation within the Special Areas, in the Province of Alberta, in accordance with the regulations, to applicants who were the owners of such lands or who, prior to the same becoming Provincial lands, held a beneficial interest therein.

1. Application to acquire a Cultivation Lease must be made on the prescribed form and filed at Hanna or with the District Office in which the land is situated; accompanied by a permit fee of $1.00.

2. The lease shall be for a term of twenty years, renewable in the discretion of the Minister for a further term of twenty years, subject to the Regulations in force at the time such renewal is granted.

3. (*a*) The lessee shall pay yearly in advance a cash rent at the rate of the prevailing rental for each acre of uncultivated land leased, unless the uncultivated acreage be less than twenty acres, together with a one-eighth share of the crop or crops grown upon the lands described in such lease, and such rents shall be subject to readjustment by the Minister; provided that any such share of crop or crops grown upon the land described in any lease and delivered in payment of rent shall be delivered without any deduction of any kind whatsoever.

(*b*) The Minister shall determine in each crop year the average number of bushels per acre for each variety of crop which in his opinion are required to meet the cost of producing each such crop, and any lesser yield shall be deemed to be a failure.

4. The lease shall be in such form as may be determined by the Minister in accordance with the provisions of these regulations.

5. The lease shall contain a description of the land upon which cultivation and grazing operations may be conducted, and shall, during its continuance, vest in the holder thereof exclusive possession of such land and the exclusive right of ownership of the product of such cultivation, except as to the rights of the Crown.

6. The lessee shall not make use of the land for any purpose other than cultivation and grazing without the consent of the Minister.

7. The lessee shall confine his stock to the lands described in his lease at all times and will not permit or cause to be permitted their grazing upon, or straying upon any adjoining public lands, and will not move them across any adjoining lands administered by the Department without the permission of the Minister.

8. The lessee may cut without charge hay on the unbroken portion in portportion to three tons of hay for each head of stock in accordance with the carrying capacity of his grazing lease as determined by the Department and such hay shall be used exclusively for the feeding of his own stock.

9. The lessee shall farm the lands in a proper and husbandlike manner and raise the greatest amount of grain thereon the nature of the soil and season will permit.

10. No lessee shall increase the area of land which is under cultivation at the date when a lease is granted under these regulations, without first obtaining the consent in writing of the Board to do so.

11. The lessee must use only first class seed, free and clear of all noxious weeds, and shall cut, keep down and destroy all noxious weeds growing on the premises.

12. The lessee must at all times perform, observe, and comply with all the provisions of The Public Lands Act, 1949, The Noxious Weeds Act, The Agricultural Pests Act, The Control of Soil Drifting Act, and any other Act which affects the proper utilization and conservation of land or any resources affected by same, and any regulations now made or which may at any time hereafter be made under the authority of the Acts or of any Act or Acts passed in substitution therefor.

13. If fencing and other improvements which may have been placed on the land are not the property of the lessee, the Minister may authorize the removal of such fencing or other improvements, and may also grant right of entry upon the land for the purpose of such removal.

14. The lessee may erect upon the land such fencing and other improvements, as may be deemed necessary for the protection of the rights acquired by him, and he may remove the same at any time prior to the fifteenth day of May next following the expiration of his lease, provided there are no sums of money due or payable to the Crown.

15. Any buildings, erections or other improvements whatsoever belonging to the Crown upon the lands not occupied by the lessee shall at all times be securely fastened or protected so that no live stock or other animals shall have access thereto, and such buildings, erections or other improvements shall not be used or occupied by any person without the consent in writing of the Minister being first had and obtained.

16. The lessee shall keep all unoccupied buildings, wells and excavations, hay and threshed grain of every kind and description grown or produced on the lands enclosed within a proper fence or fences so that no live stock or other animals shall have access thereto.

17. The lessee shall have the right to reside on the lands and erect thereon such buildings and improvements as may be required in connection with the lessee's operations.

18. (*a*) The buildings and improvements placed upon the land by a former owner who becomes the lessee under these regulations shall be deemed to be the property of such lessee.

(*b*) The lessee shall upon the issue of a lease purchase all buildings and improvements belonging to the Crown which he desires to use, at such price and on such terms of payment as may be fixed by the Minister.

19. When authorized to use any buildings, or other improvements on the land, the lessee shall keep the same in a good state of repair and on the expiration of the time authorized for use of said buildings and improvements they shall be left in the same state of repair and of the same value as when taken over by the lessee.

20. The lessee shall not be entitled to claim any compensation for any cultivation or improvements made by him on the land.

21. No timber on the demised premises shall be cut or removed for fuel or other purposes, unless a permit has been acquired in accordance with the provisions of the timber regulations. When the timber is to be used for fuel by the lessee, such permit will be issued free of dues or fee.

22. The Minister may at any time during the term of the lease withdraw any portion of the land hereby demised that may be required for community purposes, including hay reserves, dam sites and irrigation projects, and thereupon the lessee shall become entitled to a reduction of the rent hereby reserved, proportionate to the reduction of the area so withdrawn, but shall have no further, or other claim, or be entitled to any other compensation for or on account of such withdrawal, but any improvements owned by the lessee on the lands so withdrawn may be removed by him or he shall be entitled to compensation therefore the amount of such compensation to be fixed by the Minister.

23. The lessee shall not assign, transfer, or sublet the premises described in his lease, or any part thereof, without the consent of the Minister.

24. The Minister reserves the right to withhold the issue of a lease or a renewal thereof, or to cancel a lease issued in error, and, in his discretion, to refund moneys paid in connection therewith.

25. Any person who cultivates a tract of Provincial Land, without first obtaining the required permission to do so, shall be required to deliver without any deduction of any kind whatsoever a full one-third share of the crop grown on such area unless otherwise directed by the Minister.

26. The lease shall be subject to cancellation for failure on the part of the lessee to comply fully with the conditions of the lease and with the provisions of these regulations, or in case it can be shown that the lease was obtained by misrepresentation of any material facts; and upon the cancellation of the lease for any such reasons, unless the Minister otherwise directs, all payments made to the Crown in connection therewith shall be forfeited and the lessee shall not be entitled to receive compensation for any work performed on the land described in such lease or for any expenditure in connection therewith.

27. Should a lessee voluntarily surrender his lease for cancellation, any subsequent applicant who obtains a lease shall pay to the Department the value of the improvements belonging to the lessee and the amount so collected shall be paid, upon application, to the lessee after deducting any amount for which he may be indebted to His Majesty or to any Irrigation and Drainage Districts, for any rate, taxes and assessments. The lessee shall, however, with the permission of the said Department, have the option of removing any improvements owned by him, which may be on the leasehold at the time the lease is cancelled or expires.

28. The holder of a lease may bring and maintain actions for trespass committed at any time before the expiration of the lease and all such proceedings pending at the expiration of the lease may be continued and completed as if the lease had not expired.

29. Any notice respecting a lease issued under these Regulations shall be sufficiently served on the lessee and if left addressed to him on the land described in the lease, or if posted to him to his last known address, or if left at the said address. A notice sent by post shall be deemed to be given at the time when in due course of post it would be delivered to the address to which it is sent.

30. The Minister may from time to time make such additional regulations as may appear to be necessary or expedient covering the manner in which the operations shall be conducted.

31. All leases, permits, notices or other documents, not otherwise provided for, issued under these regulations, shall be signed by the Minister, or by any officer of the Department specially authorized thereto in writing by the Minister.

(Extract from *The Alberta Gazette* of May 15, 1950.)

EDMONTON: Printed by A. Shnitka, King's Printer.

GOVERNMENT OF THE PROVINCE OF ALBERTA

THE PUBLIC LANDS ACT

REGULATIONS APPROVED

Edmonton, Tuesday, April 25, 1950.

His Honour the Lieutenant Governor, by and with the advice of the Executive Council, has been pleased to order (pursuant to the provisions of The Public Lands Act, being chapter 81 of the Statutes of Alberta, 1949), that the regulations attached hereto governing the issue of Cultivation Permits on public lands within the Special Areas be and are hereby established.

R. A. ANDISON,
(O.C. 429-50) Clerk of the Executive Council.

DEPARTMENT OF MUNICIPAL AFFAIRS

THE PUBLIC LANDS ACT

REGULATIONS GOVERNING THE ISSUE OF CULTIVATION PERMITS ON PUBLIC LANDS WITHIN THE SPECIAL AREAS

Interpretation:

In these Regulations, unless the context otherwise requires:

"Department" means the Department of Municipal Affairs.

"Minister" means the Minister of Municipal Affairs.

"Board" means the Special Areas Board appointed pursuant to The Special Areas Act, 1939.

"Public Lands" means public lands and lands of a class designated school lands.

Cultivation Permits may be issued on public lands available for the purpose of cultivation within the Special Areas, in the Province of Alberta, in accordance with the Regulations.

1. (*a*) Application to acquire a cultivation permit must be made on the prescribed form and filed with or forwarded to the Special Areas Board at the district office in which the land is situated.

(*b*) Application must be accompanied by a permit fee of $1.00. The rental shall be on a cash and/or crop share basis as prescribed by the Minister.

2. The Board reserves the right to refuse any or all applications for any specific land or fraction thereof and shall settle in such manner as it deems best all disputes which arise between persons claiming the right to use the same land.

3. An applicant for a permit shall have no right to enter upon or to cultivate the land applied for until a permit in his favour has actually been issued, or authority granted in writing by the representative of the Board.

4. (*a*) Except as hereinafter provided, every permit shall be valid from the date of the issue thereof until the 31st day of March of the following year.

(*b*) The permit shall be in such form as may be determined by the Minister in accordance with the provisions of these regulations.

5. The permit shall contain a description of the land upon which cultivation operations may be conducted, and shall, during its continuance, vest in the holder thereof exclusive possession of such land and the exclusive right of ownership of the product of such cultivation, except as to the rights of the Crown. The holder of a permit may bring and maintain actions for trespass committed at any time before the expiration of such permit, and all such proceedings pending at the expiration of the permit may be continued and completed as if the permit had not expired.

6. The permittee may use any buildings or other improvements on the land upon payment of rent amounting to 6% of the fixed value of the said improvements.

7. The permittee shall not make use of any of the land for any purposes other than cultivation and grazing.

8. Any buildings, erections or other improvements whatsoever belonging to the Crown upon the lands not occupied by the permittee shall at all times be securely fastened or protected so that live stock or other animals shall not have access thereto, and such buildings, erections or other improvements shall not be used or occupied by any person other than the permittee without the consent in writing of the Minister being first had and obtained.

9. The permittee shall keep all unoccupied buildings, walks, hay, excavations and threshed grain of every kind and description grown or produced on the land enclosed within a proper fence or fences so that no live stock or other animals shall have access thereto.

10. (*a*) No permittee shall increase the area of land which is under cultivation at the date when a permit is granted under these regulations, without first obtaining the consent in writing of the Board to do so.

(*b*) the permittee shall file with the respesentative of the Board for the district in which the land is situated, on or before the 15th day of October, a statutory declaration setting out accurately the number of acres in crop on the lands and the different kinds of grain grown thereon, together with the number of bushels obtained from such crops or grain grown thereon.

11. Where fencing or other improvements on the land is not the property of the permittee the permit shall be subject to the right of the Minister to authorize the removal of such fencing or other improvements and entry upon the land for the said purpose.

12. The permittee must at all times perform, observe and comply with all the provisions of The Public Lands Act, The Noxious Weeds Act, The Agricultural Pests Act, The Control of Soil Drifting Act which affects the proper utilization and conservation of land or any resource affected by same and any regulations now made or which may at any time hereafter be made under the authority of the Act or of any Act or Acts passed in substitution therefor.

13. The permittee may erect upon the land such fencing and other temporary improvements as may be deemed necessary for the protection of the rights acquired by him, and he may remove the same at any time prior to the 15th day of May next following the expiration of his permit.

Provided there are no sums of money due or payable to the Crown, or to any Municipal, Improvement or School Districts for rates, assessments or taxes.

14. The Board may require the holder of a permit to submit evidence that he is complying with these regulations, and in the event of his failing to furnish such evidence within a reasonable time, the Minister may cancel the permit and otherwise dispose of the land.

15. The permittee shall pay and discharge all rates, assessments and taxes which are a proper charge on the premises.

16. The permittee shall not assign, transfer, or sub-let his permit or any interest therein without the consent of the Minister.

17. The Minister reserves the right to withhold the issue of a permit in any case or to cancel a permit issued in error and, in his discretion, to refund moneys paid in connection therewith.

18. Any permittee who cultivates an area of Provincial Land outside the boundaries of the tract described in his permit, shall be required to deliver in the name of the Department, double the amount of the prescribed share of the crop or crops for the area so cultivated without authority outside of such boundaries.

19. The permit shall be subject to cancellation for failure on the part of the permittee to comply fully with the conditions of the permit and with the provisions of these regulations, or in case it can be shown that the permit was obtained by misrepresentation of any material facts; and upon the cancellation of the permit for any such reason, unless the Minister otherwise directs, all payments made in connection therewith shall be forfeited and the permittee shall not be entitled to receive compensation for any work performed on the land described in such permit, or for any expenditure incurred in connection therewith.

20. Any notice, demand, or other communication prepared and issued under the provisions of these regulations, may be validly given and served by the Secretary of the Board, or by the representative of the Board for the district.

21. Any notice respecting a permit issued under these regulations shall be sufficiently served on the permittee if left addressed to him on the land described in the permit, or if posted to him at his last known address, or if left at the said address. A notice sent by post shall be deemed to be given at the time when, in due course, it would be delivered.

22. The Minister may, from time to time, make such additional regulations as may appear to be necessary or expedient.

(Extract from *The Alberta Gazette* of May 15, 1950.)

EDMONTON: Printed by A. Shnitka, King's Printer.

GOVERNMENT OF THE PROVINCE OF ALBERTA

THE PUBLIC LANDS ACT, 1949

(O.C. 1211-51)

REGULATIONS GOVERNING THE ISSUE OF IRRIGATION LEASES ON PUBLIC LANDS WITHIN THE SPECIAL AREAS

In these regulations, unless the context otherwise requires:

"Irrigable acreage" means all land that may be flooded by water, when available, from the irrigation ditches.

"Department" means the Department of Municipal Affairs.

"Minister" means the Minister of Municipal Affairs.

"Public lands" means any lands to which The Public Lands Act applies, including those lands of a class designated "school lands".

1. Leases to irrigate available areas of Public Lands may be granted by the Minister.

2. (*a*) Application for an irrigation lease must be made on the prescribed form and filed with the Chief Clerk for the district in which the land is situate, and must be accompanied by an office fee of one dollar.

(*b*) The lease shall be for a term of twenty years, subject to review every five years and renewable in the discretion of the Minister for a further term of twenty years subject to the regulations in force at the time such renewal is granted.

(*c*) After the lease has been in operation for a term of two years it shall be subject to cancellation at the discretion of the Minister unless the lessee is complying with the correct irrigation practices and unless satisfactory progress is being made.

(*d*) The lessee shall pay yearly in advance a cash rent determined by the Minister, for each acre of land leased together with an amount of fifty cents per acre on the irrigable acreage, provided however that no rental on the irrigable acreage shall be charged for two years from the date of the issue of the first lease and provided further however that the Minister, at his discretion, may waive a portion or all of the rental in any year where a small crop results from an insufficient supply of water.

(*e*) The rate of rental shall be subject to revision for payment of the annual rental in the year 1956.

(*f*) The lessee shall be required to pay in addition to the regular rental the cost of operation as may be levied by the Water User's Association or by the Special Areas Board.

(*g*) The lease shall be in such form as may be determined by the Minister in accordance with the provisions of these Regulations.

3. The lease shall contain a description of the land upon which irrigation and grazing operations may be conducted, and shall, during its continuance, vest in the holder thereof exclusive possession of such land and the exclusive right of ownership of the product of such cultivation, except as to the rights of the Crown.

4. The lessee shall confine his stock to the lands described in his lease at all times and will not permit or cause to be permitted their grazing upon, or straying upon any adjoining Public Lands, and will not move them across any adjoining lands administered by the Department without the permission of the Minister.

5. The lessee shall farm the lands in a proper and husbandlike manner, in accordance with the correct irrigation practices.

6. The lessee shall at his own expense in the proper season in each and every year of the term of the lease, seed to crop and irrigate such acreages as the Minister may from time to time prescribe.

7. The lessee shall on or before the 15th day of July in each year file with the Chief Clerk for the Special District in which the land is situated a statutory declaration setting out accurately the number of acres in crop on the lands and the different kinds of crops grown.

8. The lessee must use only first-class seed, free and clear of all noxious weeds, and shall cut, keep down and destroy all noxious weeds growing on the premises.

9. The lessee must at all times perform, observe and comply with all the provisions of The Public Lands Act, 1949, The Noxious Weeds Act, The Agricultural Pests Act, The Control of Soil Drifting Act, and any other Act which affects the proper utilization and conservation of land or any resource affected by same, and any regulation now made or which may at any time hereafter be made under the authority of the Acts or of any Act or Acts passed in substitution thereof.

10. If fencing or other improvements which may have been placed upon the land are not the property of the lessee, the Minister may authorize the removal of such fencing or other improvements, and may also grant right of entry upon the land for the purpose of such removal.

11. The lessee shall have the right to reside on the land and erect such buildings, fencing and other improvements as may be deemed necessary for the operation of the rights acquired by him and he may remove the same at any time prior to the 15th day of May, next, following the expiration of his lease, provided there are no sums of money due or payable to the Crown.

12. Any buildings, erections or other improvements whatsoever belonging to the Crown upon the lands not occupied by the lessee shall at all times be securely fastened or protected so that no livestock or other animals shall have access thereto, and such buildings, erections or other improvements shall not be used or occupied by any person without the consent in writing of the Minister being first had and obtained.

13. The lessee shall keep all unoccupied buildings, wells and excavations, hay and threshed grain of every kind and description grown or produced on the lands, enclosed within a proper fence or fences so that no livestock or other animals shall have access thereto.

14. The lessee shall upon the issue of a lease purchase all buildings and improvements belonging to the Crown which he desires to use, at such price and on such terms of payment as may be fixed by the Minister.

15. When authorized to use any buildings, or other improvements, on the land, the lessee shall keep same in a good state of repair and on expiration of the time authorized for use of said buildings and improvements they shall be left in the same state of repair and of the same value as when taken over by the lessee.

16. The lessee shall not be entitled to claim any compensation for any cultivation or improvements made by him on the land.

17. No timber on the demised premises shall be cut or removed for fuel or other purposes, unless a permit has been acquired in accordance with the provisions of the timber regulations. When the timber is to be used for fuel by the lessee, such permit will be issued free of dues or fee.

18. Should any railway company become entitled to a grant from His Majesty or His Successors of any portion of the lands for the roadbed of the railway or its branches or for stations, station grounds, workshops, dock grounds and water frontage on the navigable waters, building yards and other appurtenances required for the convenient and effectual construction and working of the railway and its branches, the land so granted shall thereupon become withdrawn from the operation of the lease, but the lessee shall not become entitled to any reduction or abatement of the rent unless and until the lands so granted have been taken actual possession of by some person under the proper authority in that behalf; and in case of such actual possession the lessee shall become entitled to a reduction of the rent, proportionate to the reduction of area so withdrawn and actual possession taken thereof, but shall have no further or other claim or be entitled to any other compensation for or on account of withdrawal.

19. The lessee shall not assign, transfer, or sublet the premises described in his lease, or any part thereof, without the consent of the Minister.

(Extract from *The Alberta Gazette* of August 31, 1951)

EDMONTON. Printed by A. SHNITKA, King's Printer for Alberta. 1951

GOVERNMENT OF THE PROVINCE OF ALBERTA

THE PUBLIC LANDS ACT

REGULATIONS APPROVED

Edmonton, Tuesday, April 25, 1950.

His Honour the Lieutenant Governor, by and with the advice of the Executive Council, has been pleased to order (pursuant to the provisions of The Public Lands Act, being chapter 81 of the Statutes of Alberta, 1949), that the regulations attached hereto governing the issue of Miscellaneous Leases on public lands within the Special Areas be and are hereby established.

R. A. ANDISON,
Clerk of the Executive Council.

(O.C. 432-50)

DEPARTMENT OF MUNICIPAL AFFAIRS

THE PUBLIC LANDS ACT

REGULATIONS GOVERNING THE ISSUE OF MISCELLANEOUS LEASES ON PUBLIC LANDS WITHIN THE SPECIAL AREAS

Interpretation:

In these Regulations, unless the context otherwise requires:

"Department" means the Department of Municipal Affairs.

"Minister" means the Minister of Municipal Affairs.

"Board" means the Special Areas Board appointed pursuant to The Special Areas Act, 1939.

"Public Lands" means public lands and lands of a class designated school lands.

1. Leases for residential, commercial, fur ranching, gardening and other purposes may be granted by the Minister on vacant and available public lands.

2. (*a*) Application for a Miscellaneous Lease must be made on the prescribed form and filed with or forwarded to the Board, and must be accompanied by a fee of five dollars.

(*b*) The application shall contain an accurate description of the land and the legal access thereto.

(c) The applicant shall declare what improvements are on the land applied for and give the ownership and location of the same.

3. (*a*) A Miscellaneous Lease shall be for a term of more than one year but not exceeding ten years renewable on such terms and conditions as the Minister may prescribe at the time of granting of the renewal.

(*b*) The lessee shall pay annually in advance a cash rental as may be prescribed by the Minister and set out in the lease.

4. The lessee shall pay and discharge all rates, assessments and taxes which are a proper charge on the premises.

5. The Board reserves the right to refuse any or all applications for any specific land or fraction thereof and shall settle in such manner as it deems best all disputes which arise between persons claiming the right to use the same land.

6. The lessee may be given the privilege of purchasing the buildings or other improvements on the land, which are the property of the Crown, at such price and upon such terms and conditions as may be fixed by the Minister.

7. Any buildings, erections or other improvements whatsoever belonging to the Crown upon the lands not occupied by the lessee shall be securely fastened or protected so that no livestock or other animals shall have access thereto.

8. The lessee shall not erect on the land any buildings or improvements, other than authorized in the lease.

9. When authorized to use any buildings or other improvements on the land, the lessee shall keep the same in a good state of repair, and on expiration of the time authorized for use of said buildings and improvements they shall be left in the same state of repair and of the same value as when taken over by the lessee.

10. The lessee shall not cut or destroy, or allow to be cut or destroyed, any timber or timber trees, or shrubs, without the consent in writing of the Minister, and then only in accordance with such terms and conditions as may be prescribed.

11. A lease shall be for the sole use and benefit of the lessee, and the violation of this provision shall render the lease liable to cancellation at the discretion of the Minister.

12. The Minister reserves the right to withhold the issue of a lease or a renewal thereof, or to cancel a lease issued in error, and, in his discretion, to refund moneys paid in connection therewith.

13. (*a*) The Minister may at any time during the term of the lease upon giving the lessee one year's notice in writing withdraw any portion of the lands contained in the lease that may be required for community purposes, dam sites and irrigation projects; and thereupon the lessee shall become entitled to a reduction of the rent proportionate to the reduction of the area so withdrawn, but shall have no further or other claim or be entitled to any other compensation for or on account of such withdrawal, but any improvements owned by the lessee on the land so withdrawn may be removed by him or he shall be entitled to compensation therefor, the amount of such compensation to be fixed by the Minister.

(*b*) Service of a notice may be effected by mailing the same by registered mail to the address or the last known address of the lessee and in such case service shall be deemed to be effected upon the lessee on the day on which the notice was mailed.

(Extract from *The Alberta Gazette* of May 15, 1950.)

EDMONTON: Printed by A. Shnitka, King's Printer.

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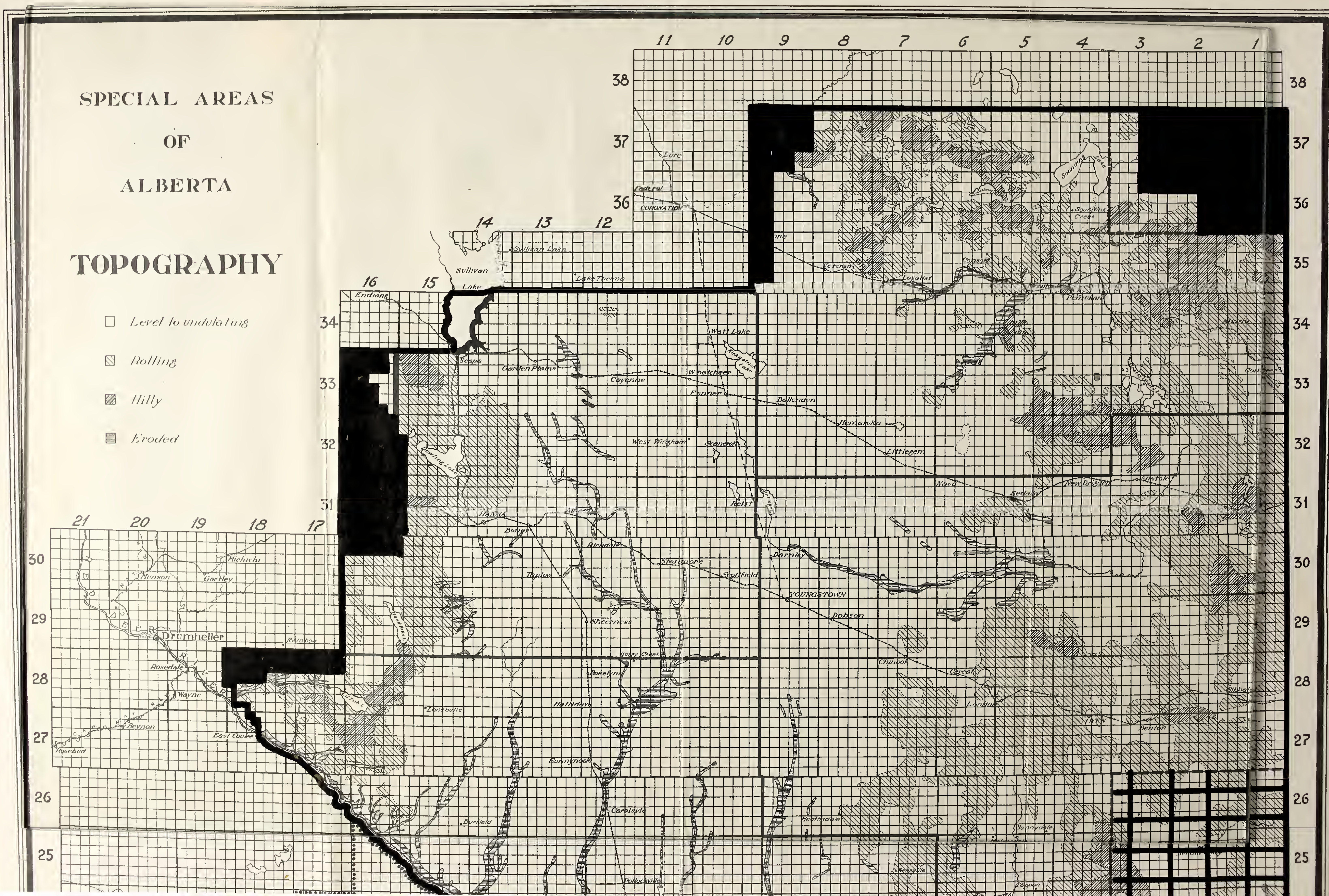
RUS
v.2

SP COLL

FIGURE 2



SPECIAL AREAS
OF
ALBERTA

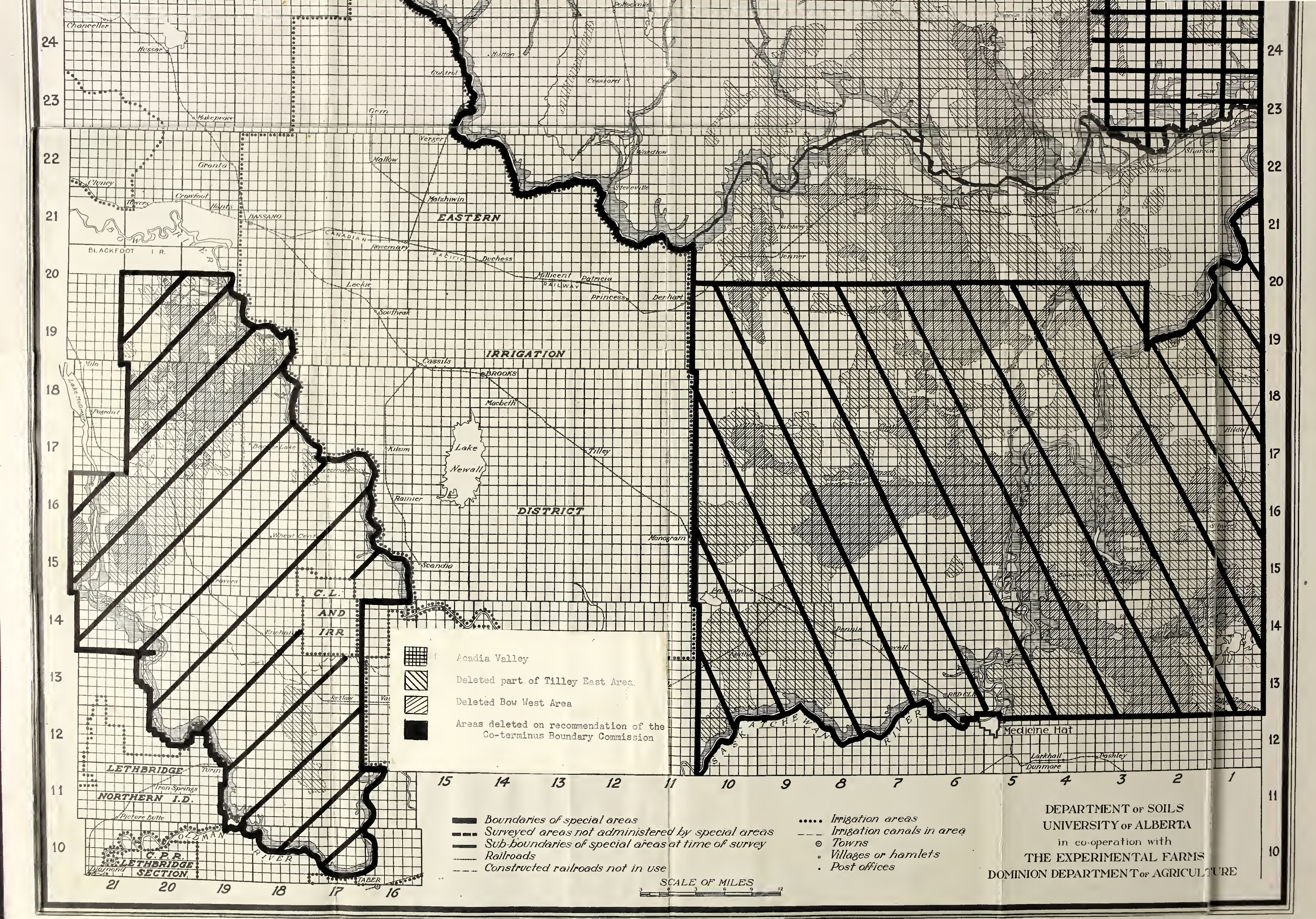
TOPOGRAPHY

☐ *Level to undulating*

▧ *Rolling*

▨ *Hilly*

▦ *Eroded*


Acadia Valley
Deleted part of Tilley East Area.
Deleted Bow West Area
Areas deleted on recommendation of the Co-terminus Boundary Commission
Boundaries of special areas
Surveyed areas not administered by special areas
Sub-boundaries of special areas at time of survey
Railroads
Constructed railroads not in use
Irrigation areas
Irrigation canals in area
Towns
Villages or hamlets
Post offices
SCALE OF MILES
3 0 3 6 9 12
DEPARTMENT OF SOILS
UNIVERSITY OF ALBERTA
in co-operation with
THE EXPERIMENTAL FARMS
DOMINION DEPARTMENT OF AGRICULTURE
EASTERN
IRRIGATION
DISTRICT
C.L. AND IRR
LETHBRIDGE NORTHERN I.D.
C.P.R. LETHBRIDGE SECTION
BLACKFOOT I.R.
BOW RIVER
OLDMAN RIVER
SASKATCHEWAN RIVER
CANADIAN PACIFIC RAILWAY
Lake Newell
Chanceller
Hussar
Hutton
Cessford
Pollockville
Control
Makepeace
Gem
Verger
Mallow
Wardlow
Steveville
Gronlo
Cluny
Crowfoot
Tovery
Hardy
BASSANO
Matzhiwin
Rosemary
Duchess
Millicent
Patricia
Princess
Derhart
Lockie
Southesk
Cassils
BROOKS
Macbeth
Tilley
Kitsim
Rainier
Monogram
Scandia
Milo
Lake McGregor
Pageant
Bantry Lake
Vauxhall
Wheat Centre
Travers
Enchant
Retlaw
Turin
Iron Springs
Picture Butte
Diamond City
TABER
Jenner
Atlee
Majestic
Excel
Bindloss
Sharrow
Empress
Hilda
Schuler
Rosebud
Bowmanton
Bullpound
Dennis
Bowell
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Larkhall
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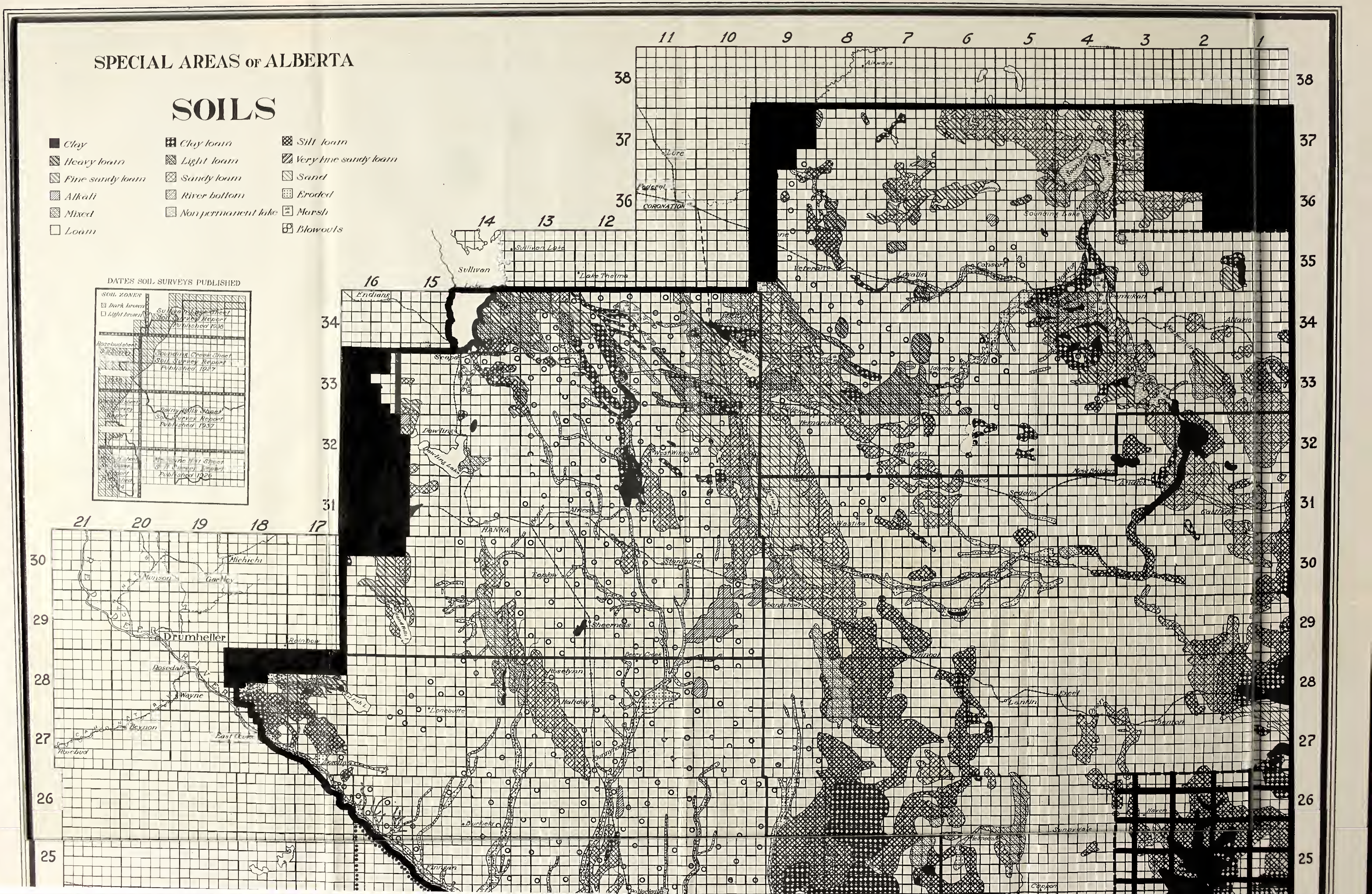
RUS
v.2

SP COLL

FIGURE 3


SPECIAL AREAS OF ALBERTA
SOILS
Clay
Heavy loam
Fine sandy loam
Alkali
Mixed
Loam
Clay loam
Light loam
Sandy loam
River bottom
Non permanent lake
Silt loam
Very fine sandy loam
Sand
Eroded
Marsh
Blowouts
DATES SOIL SURVEYS PUBLISHED
SOIL ZONES
Dark brown
Light brown
Sullivan Lake Sheet Soil Survey Report Published 1938
Rosebud sheet
Sounding Creek Sheet Soil Survey Report Published 1927
1938
Blackfoot sheet Soil Survey Report
1939
Rainy Hills Sheet Soil Survey Report Published 1937
Soil Survey Report Published 1924
Medicine Hat Sheet Soil Survey Report Published 1926
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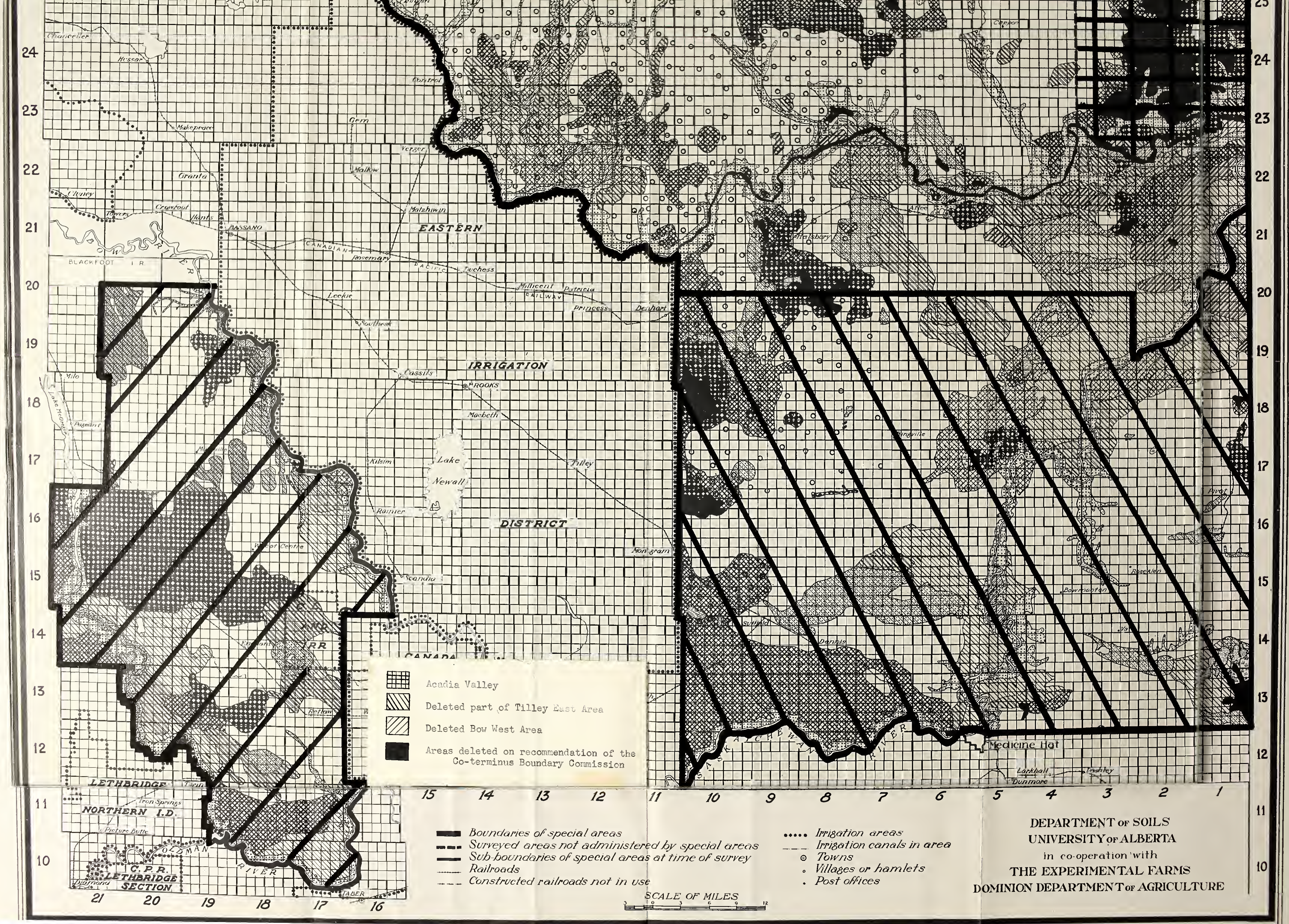
Consort
Loyalist
Veteran
Monitor
Altario
Kirriemuir
Scapa
Dowling
Dowling Lake
Hemaruka
Bellevue
Idemay
West Wishart
Naco
Sedalia
New Brigden
Antelope
Esther
Kenaston
Watts
Wasiaka
HANNA
Richdale
Stanmore
Michichi
Munson
Garfield
Drumheller
Rainbow
Rosedale
Wayne
Beynon
East Coulee
Rosebud
Tepley
Scotfield
Sheerness
Benny Creek
Roselynn
Halkirk
Lonebutte
Sunnynook
Carolside
Burfield
Finnegan
Pollockville
Bulpit
Lanfine
Excel
Benton
Helmsdale
Sunnydale
Chinook
Heaver
Cappon
RED DEER RIVER

Chancellor
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Cluny
Towers
Crowfoot
Hants
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Matzhiwin
EASTERN
CANADIAN PACIFIC RAILWAY
Rosemary
Duchess
Millicent
Patricia
Princess
Denhart
Leckie
Southesk
Cassils
IRRIGATION
BROOKS
Milo
Lake McGregor
Pageant
Kitsim
Lake Newall
Tilley
Rainier
DISTRICT
Scandia
Retlaw
Enchant
CANADA
BOW RIVER
BLACKFOOT I.R.
Atlee
Halsbury
Cappon
Bingville
Pivot
Bowmanton
Suffield
Dennis
SASKATCHEWAN RIVER
Medicine Hat
Larkhall
Dunmore
LETHBRIDGE NORTHERN I.D.
Iron Springs
Picture Butte
OLDMAN RIVER
C.P.R. LETHBRIDGE SECTION
Diamond City
TABER
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Acadia Valley
Deleted part of Tilley East Area
Deleted Bow West Area
Areas deleted on recommendation of the Co-terminus Boundary Commission
Boundaries of special areas
Surveyed areas not administered by special areas
Sub-boundaries of special areas at time of survey
Railroads
Constructed railroads not in use
Irrigation areas
Irrigation canals in area
Towns
Villages or hamlets
Post offices
SCALE OF MILES
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DEPARTMENT OF SOILS
UNIVERSITY OF ALBERTA
in co-operation with
THE EXPERIMENTAL FARMS
DOMINION DEPARTMENT OF AGRICULTURE

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RUS
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FIGURE 5

SPECIAL AREAS

OF

ALBERTA

LAND CLASSIFICATION

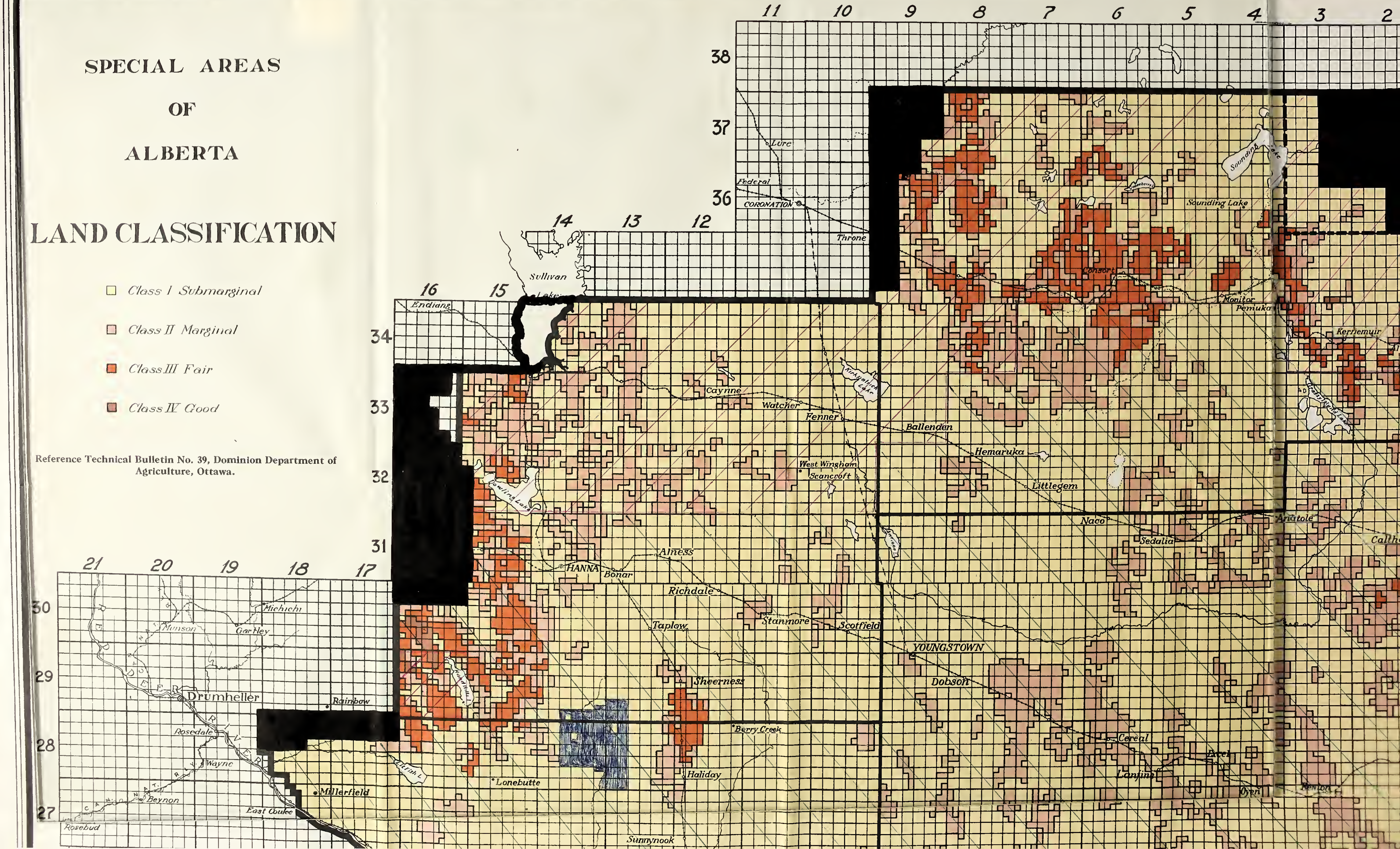
🟨 *Class I Submarginal*

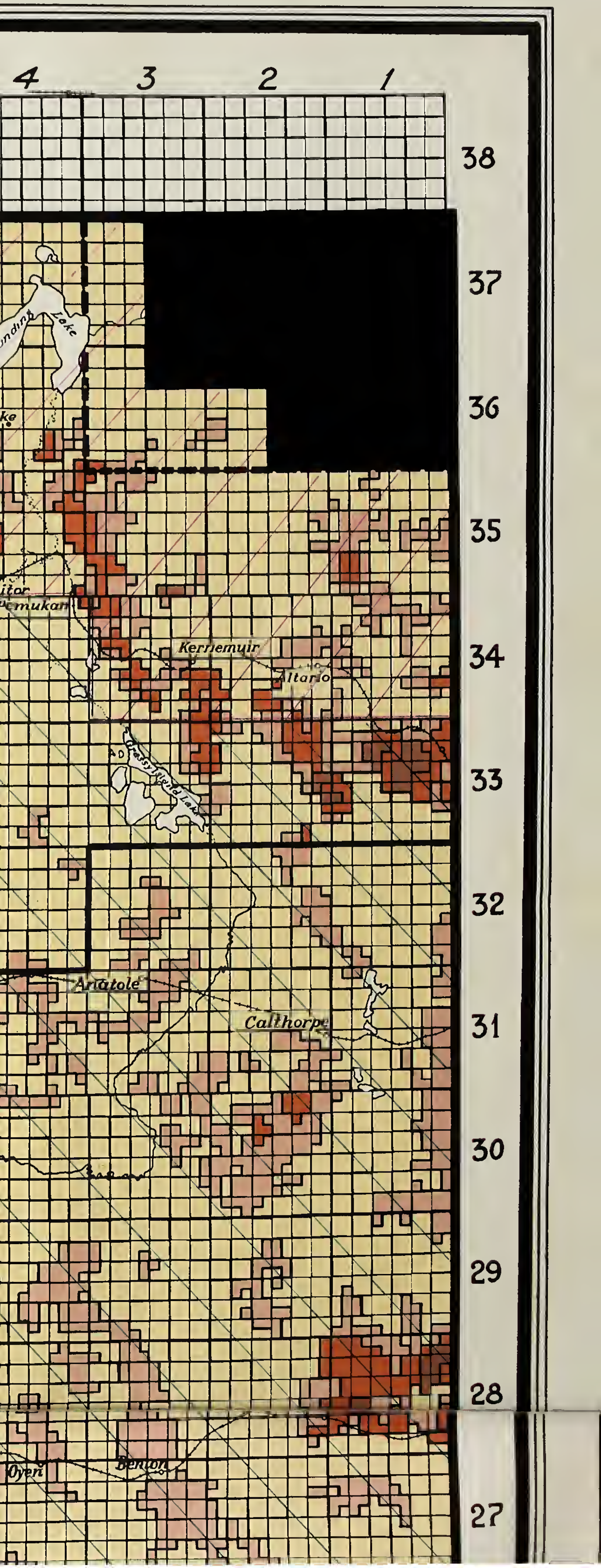
▨ *Class II Marginal*

🟥 *Class III Fair*

🟫 *Class IV Good*

Reference Technical Bulletin No. 39, Dominion Department of Agriculture, Ottawa.

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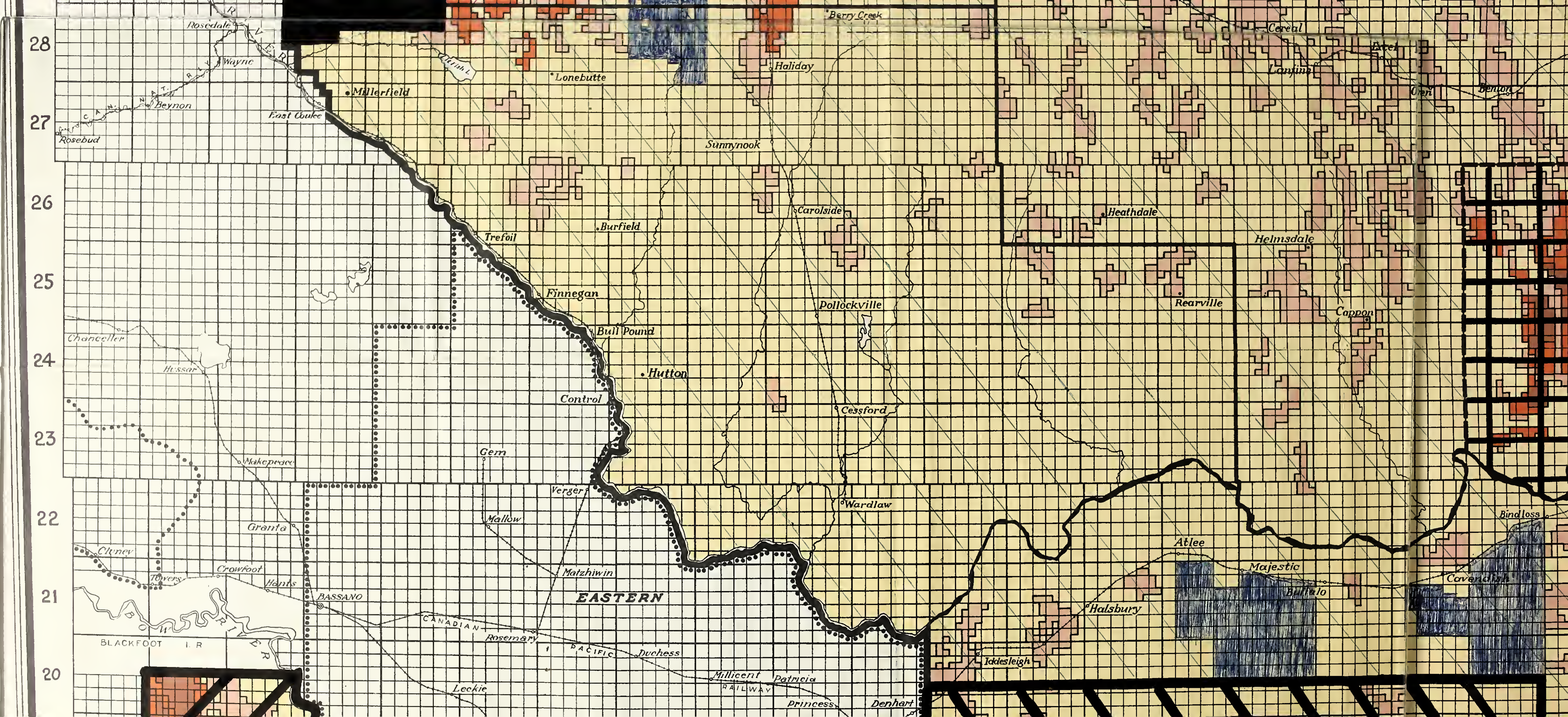
Kerriemuir
Altario
Grassy Island Lake
Anatole
Calthorpe
Oyen
Benton



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Wayne
CAN. NAT. RLY
Beynon
Rosebud
East Coulee
Millerfield
Lonebutte
Berry Creek
Haliday
Sunnynook
Cereal
Excel
Lanfine
Oyen
Benton
Carolside
Heathdale
Helmsdale
Burfield
Trefoil
Finnegan
Bull Pound
Pollockville
Rearville
Cappon
Hutton
Chancellor
Hussar
Control
Cessford
Makepeace
Gem
Verger
Wardlaw
Mallow
Granta
Cluney
Towers
Crowfoot
Hanks
Matzhiwin
BASSANO
EASTERN
CANADIAN PACIFIC RAILWAY
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Patricia
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Cavendish
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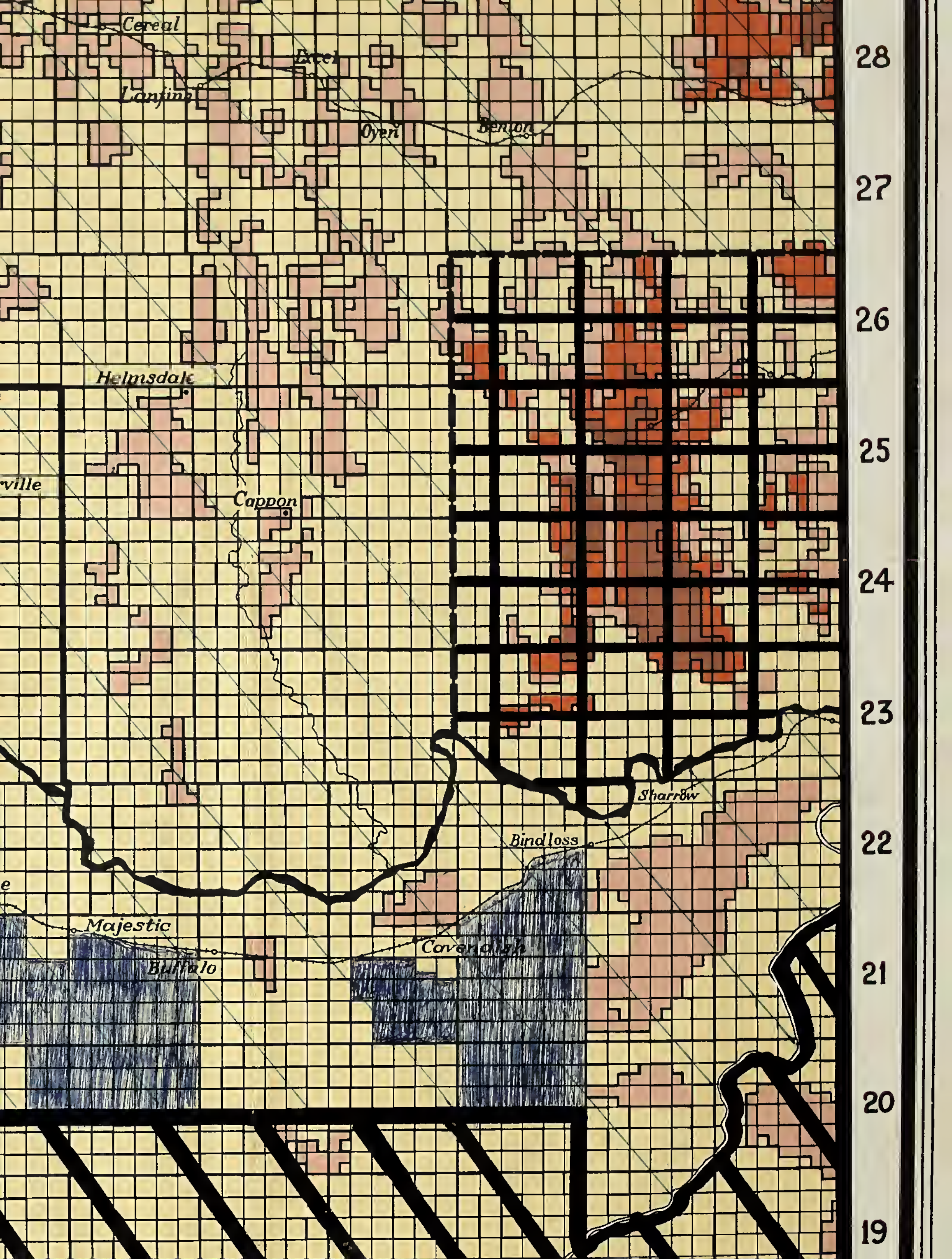
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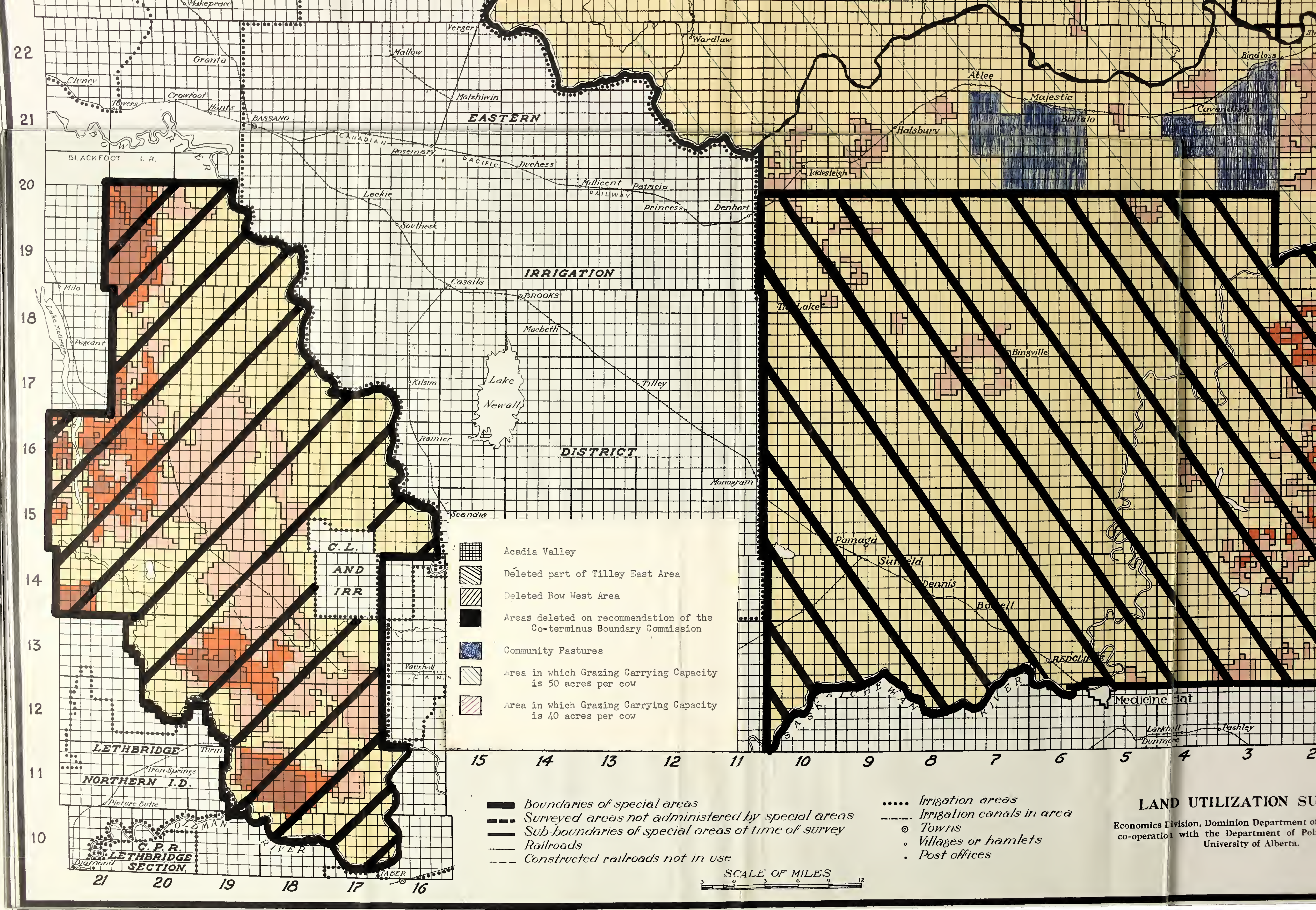
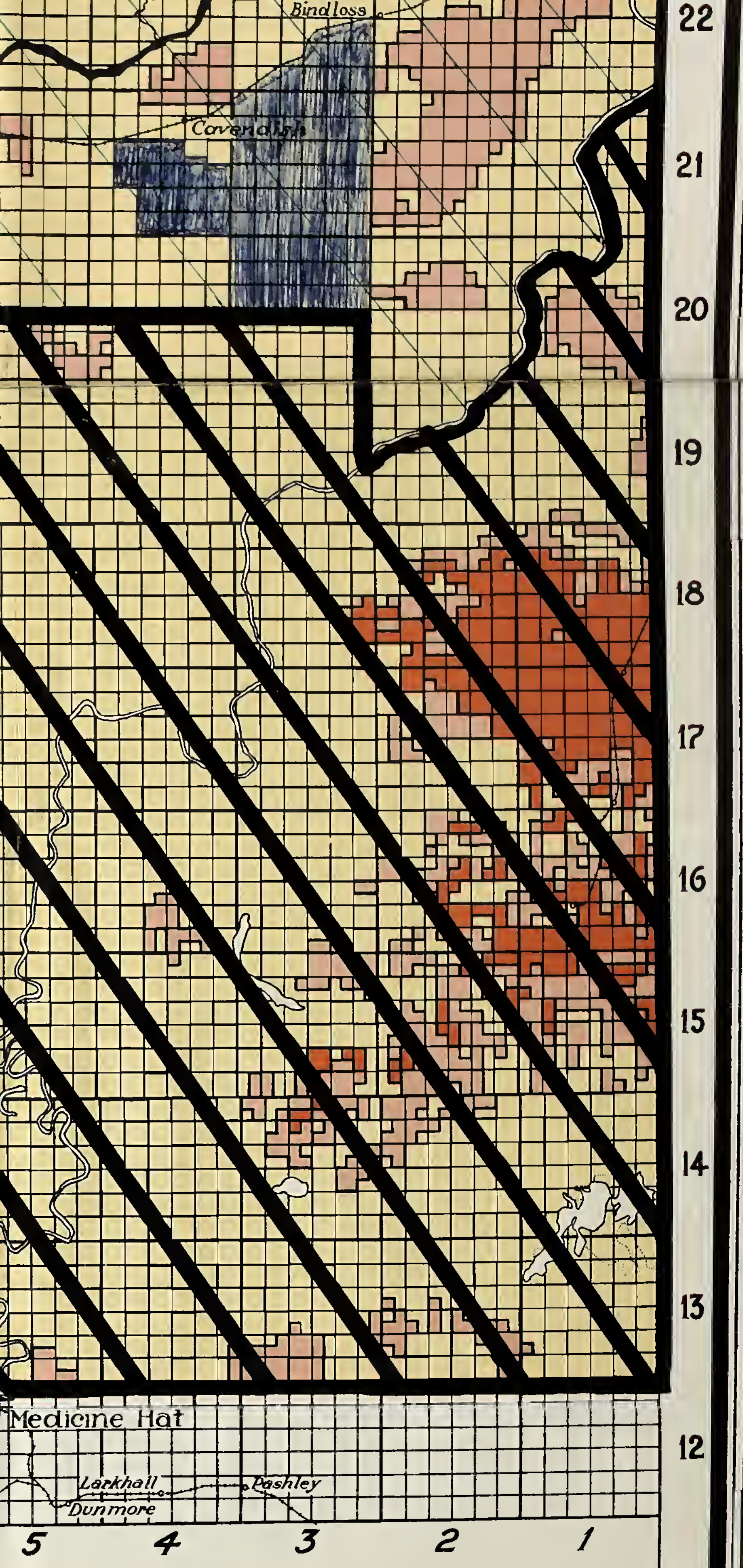


LAND UTILIZATION SU

Economics Division, Dominion Department of
co-operation with the Department of Pol
University of Alberta.



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